STOPPING WATER POLLUTION AT ITS SOURCE

MISA

Municipal/Industrial Strategy for Abatement

THE DEVELOPMENT DOCUMENT FOR THE EFFLUENT MONITORING REGULATION FOR THE ELECTRIC POWER GENERATION SECTOR

Ontario

Environment
Environnement

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MUNICIPAL-INDUSTRIAL STRATEGY FOR ABATEMENT (MISA)

THE DEVELOPMENT DOCUMENT FOR THE EFFLUENT MONITORING REGULATION FOR THE ELECTRIC POWER GENERATION SECTOR

FEBRUARY 1990

RECYCLABLE

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USE OF THE MISA SECTOR-SPECIFIC EFFLUENT MONITORING REGULATIONS WITH THE GENERAL EFFLUENT MONITORING REGULATION

Under the MISA program, the monitoring requirements for each sector are specified in two regulations - The General Effluent Monitoring Regulation (Ontario Regulation 695/88 as amended by Ontario Regulation 533/89) and the relevant sector-specific Regulation.

The General Effluent Monitoring Regulation provides the technical principles which are common to all sectors. It covers the "how to" items such as sampling, chemical analysis, toxicity testing, flow measurement and reporting.

The sector-specific Regulation specifies the monitoring requirements of each direct discharger, such as the actual parameters to be monitored, the frequency of monitoring and the regulation in-force dates.

The General Effluent Monitoring Regulation, which must be used in conjunction with the sector-specific Regulation, is published under separate cover.

FOREWORD

The Municipal-Industrial Strategy for Abatement (MISA) program is aimed at reducing discharges of toxic contaminants to Ontario's waterways. The ultimate goal of the MISA program is the virtual elimination of persistent toxic contaminants from all discharges to Ontario's receiving waters.

The purpose of this document is to provide background information on the development of the MISA Effluent Monitoring Regulation for the Electric Power Generation Sector (EPGS).

The EPGS Development Document contains:

A. An overview of the Electric Power Generation Sector.

B. The Technical Rationale document for the Electric Power Generation Sector which describes the derivation of the monitoring parameters and the monitoring frequencies specified in the Effluent Monitoring Regulation.

C. The Effluent Monitoring Regulation for the Electric Power Generation Sector.

D. Explanatory Notes which explain the legal terms used in the Regulation.

PART A

OVERVIEW OF THE ELECTRIC POWER GENERATION SECTOR

I INTRODUCTION

The first part of this section serves as an introduction to the Electric Power Generation Sector. It defines electric power generation, provides a historical overview of the industry, and describes general methods of power generation as well as wastewater generation and treatment.

The section concludes with specific information on each of the stations and facilities comprising the MISA Electric Power Generation (EPG) Sector. The EPG Sector in Ontario is primarily operated by Ontario Hydro. No private sector operators are included.

II DEFINITION OF ELECTRIC POWER GENERATION SECTOR

Electric power generation refers to the generation of electricity.

The electric power generation industry, for the purposes of the development of the Effluent Monitoring Regulation, has been classified into three general categories based on power generation technology:

- hydraulic generation (waterfall);
- fossil-fuelled thermal generation (coal, oil, natural gas); and,
- nuclear-powered thermal generation (uranium).

A fourth category has been established which includes facilities associated with nuclear power generation:

- associated facilities

  (including: heavy-water plants, nuclear complex services, sites under construction, partially decommissioned (non-operating) stations, and facilities with research reactors which include research and development laboratories that support the development of nuclear power and support nuclear generating stations, specifically Chalk River Nuclear Laboratories).

III HISTORICAL OVERVIEW OF ELECTRIC POWER GENERATION

It is only in the past hundred years that rapid progress has been made in the generation and application of electricity on a large scale.

Initially, modern-day electrical power was generated by harnessing the energy produced by falling water to rotate turbines, which in turn drove electrical generators. These are called hydraulic (or hydroelectric) generating stations (HGS). Hence the term "hydroelectric power", derived from the Latin word for water - hydro, which is nowadays shortened to "hydro power" or "hydro" and is used to refer to electricity in general.

The first power plant of this type in Ontario was commissioned in 1893 on the Niagara River, by the company which is now Ontario Hydro. Today, Ontario Hydro operates a total of 68 hydraulic generating stations in the province. These stations are located on 26 watersheds, with approximately one-third of the sites in remote northern areas. Fifty-seven of the stations are unmanned, thus requiring remote operation and monitoring, and are visited on a regular basis by operations or maintenance staff.

As readily-available hydraulic sites were developed, and with ever-increasing demands for electricity, emphasis shifted towards building thermal generating stations (TGS). Thermal generating stations produce high-pressure steam that is used to rotate turbines and drive the generators which generate electricity.

The first thermal stations were designed to burn fossil fuels such as coal, oil, or natural gas (fossil-fuelled (or fossil-fired) thermal generating stations). The first thermal generating station to be built in Ontario was the R. L. Hearn TGS, located in Toronto, which began service in 1951. A total of eight fossil-fired stations have been built in the province, two of which are now mothballed (i.e. the plant is shut down, but equipment is maintained and stored operational).

As the demand for electricity increased further, nuclear-fission technologies were used to develop nuclear-powered thermal generating stations (NGS) which use uranium oxide as a fuel. The first prototype commercial nuclear-powered generating unit in Canada, a CANDU (Canadian-Deuterium Uranium) reactor, began operation in 1962 at the Nuclear Power Demonstration facility on the Ottawa River at Rolphton. The first commercial nuclear generating station to operate in Ontario was Douglas Point NGS on Lake Huron, in 1968. Both of these sites are now partially decommissioned. Four additional nuclear generating stations, at two nuclear-power complexes, have been built and are operating today. Another NGS is currently under construction. All commercial nuclear-powered generating units in Ontario are of the CANDU design.

Today, all three types of generating stations are used to supply electricity. Hydraulic and nuclear stations are used to maintain a base level of electrical output (base-load stations), while fossil-fuelled thermal stations are operated during periods of peak demand since their units can be started up or shut down in a few hours as demand changes (peaking stations).

IV PRINCIPAL RAW MATERIALS

Because hydraulic generating stations use only the force of falling water to generate electricity, they have no "raw materials" as such.

The principal raw materials used for the generation of electricity are the fuels and demineralized water utilized by thermal generating stations to produce high-pressure steam. The fuels used may be either fossil or nuclear types. Large quantities of surface water (lake or river) are treated to produce and maintain high-purity boiler water which is used to generate steam. Even greater quantities of surface water, used as once-through cooling water, are required to condense the steam back into feed water for the steam-production cycle.

Generating stations are planned to produce electricity economically, based on predicted future demand. The long-term availability of fuel supply and its cost are a major consideration. The different types of fuels have unique characteristics which dictate the quantity required to produce a given quantity of heat, and thus, the amount of steam and electricity generated. These fuel characteristics also determine, to a certain extent, the quantities and characteristics of waste by-products formed.

The six operating fossil-fuelled thermal generating stations use various grades of coal and fuel oil. One mothballed generating station was converted from coal to natural-gas combustion in its later years. The major differences between these stations, aside from design considerations, are the cost of the fuel used and the quantity of waste by-products formed. In terms of pollutants (by-products) formed, combustion of coal typically produces large quantities of ash and acidic waste gas emissions which are primarily sulphur oxides. Fuel oil produces little ash and has low sulphur oxide emissions. Natural gas is the cleanest of the fossil-fuels, which produces no ash and has minimal sulphur oxide emissions. All fossil-fuelled stations produce acid waste gas emissions which are oxides of nitrogen, as a by-product of combustion.

There are four operational nuclear-powered thermal generating stations at two nuclear complexes in Ontario. These stations use 16 CANDU type reactors for power generation. Another four units are under construction at a third site, Darlington Nuclear Generating Station. All units use natural uranium dioxide in pellet form as a fuel. The pellets are enclosed in fuel bundles where fission of uranium-235 generates heat. Heavy water is used as the reactor moderator and also as the heat-transfer medium used to produce steam from high-purity, demineralized boiler water. Nuclear-powered thermal generating stations produce by-product waste (radioactive) that is smaller in volume than wastes produced at coal-fired, fossil-fuelled stations.

The major facility associated with nuclear power generation is a heavy-water production plant. This plant extracts and enriches naturally-occuring heavy water from lake water using recycled hydrogen sulphide gas. The heavy water is then vacuum distilled to high purity.

V ELECTRIC POWER GENERATION PROCESS

The principle of generating electricity is that an electric current is produced in a copper wire if the wire is moved quickly through the field between two magnets. In large electric generators, called "turbo-generators", many loops of wire are mounted around the circumference of the machine. Thus, the magnetic lines of force produced by electromagnets mounted on the rotor shaft "cut" many more wires as they spin around, and more electricity is produced. This is the basic technique by which electric power is generated at hydraulic, fossil-fuelled and nuclear-powered generating stations in Ontario. The main difference in the three categories lies in the technology employed to rotate the generator shaft.

Method 1: Water turbines are used at hydraulic stations to convert the driving force of falling water on paddle wheels (turbine blades) into the rotation of generator shafts. Once the energy produced by falling water has served its purpose, the water is returned to the river downstream (Fig. A.1). The turbines may be mounted in either a horizontal or vertical position with the generator oriented on the same axis, depending on the design of the station.

Method 2: Steam is used at thermal generating stations to drive steam turbines which power turbo-generators. The high-pressure steam can be produced using two different methods:

a) fossil-fuelled stations use the combustion of coal, oil or natural gas in boilers (Fig. A.2);

b) nuclear-powered stations use the energy released by the fission (splitting) of uranium-235 atoms to heat heavy water, which in turn is used to boil high-purity demineralized water (Fig. A.3).

Once the high-pressure steam has expended its energy on the turbine blades, the steam is reheated and is fed to a second turbine stage at lower pressure to make more efficient use of it. Large heat exchangers utilizing lake or river water are used to assist in cooling and condensing the steam back to liquid water (condensate) for efficient boiler operation. This water is recycled back to the boiler where it again continues through the closed steam cycle. Additional make-up demineralized water is added continuously to compensate for leaks and boiler blowdown.

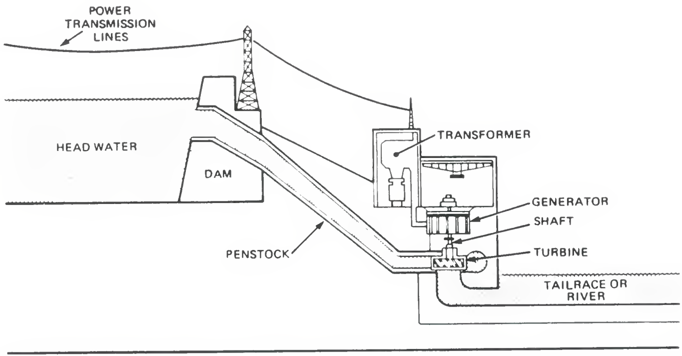

Figure A.1 Cross-sectional View of a Typical Hydraulic Generating Station

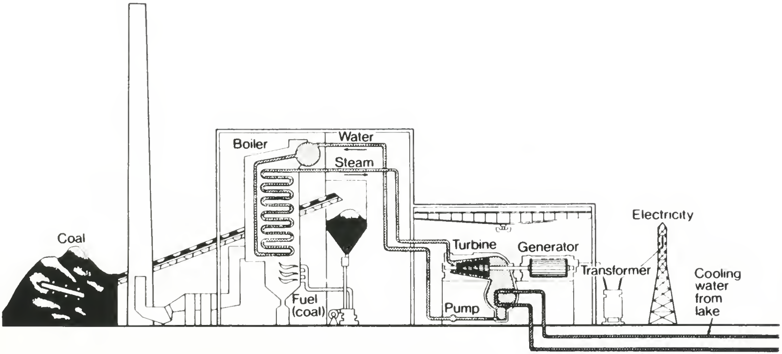

Figure A.2 Cross-sectional View of a Typical Fossil-fuelled Thermal Generating Station

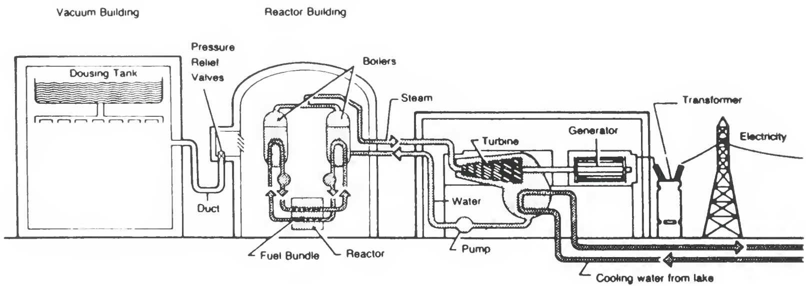

Figure A.3

Cross-sectional View of a CANDU
Nuclear-powered Thermal Generating Station

HEAVY WATER PRODUCTION

Heavy water is a naturally occurring form of water where Deuterium, which is an isotope of hydrogen containing a neutron in the nucleus, replaces hydrogen in the molecule. Ordinary lake water contains one part heavy water, or deuterium oxide (D_2O), per seven thousand parts of ordinary water.

Heavy water is used in nuclear-powered thermal generating stations to control, or "moderate", the fission of uranium-235 atoms which produces heat. Heavy water is also used as a heat-transfer medium to produce high-pressure steam in boilers.

Heavy water is extracted by vigorously mixing water with hydrogen sulphide gas, such that naturally occurring deuterium exchanges freely between the gas and liquid. Utilizing counter-current isotopic exchange between hot and cold sections of a separation tower (H_2S - H_2O Dual Temperature Process), as shown in Figure A.4, the D_2O concentration is increased from 0.015% to 30% by passing the feed water through a series of towers (stages of an enriching unit). This heavy water is then sent to a vacuum distillation unit for upgrading to 99.90% purity.

On average, a total of 340,000 tonnes of lake water is used for each tonne of heavy water produced. Approximately 34,000 tonnes of the lake water is used for the actual extraction process, with the remainder being utilized for cooling purposes.

The production capacity for heavy water in Ontario amounts to approximately 800 tonnes per year. To initially fill a nuclear reactor unit, 800 tonnes of heavy water is required. Annual make-up is about 1% of capacity (8t) per unit, for a current yearly total of about 128 tonnes for all units in Ontario.

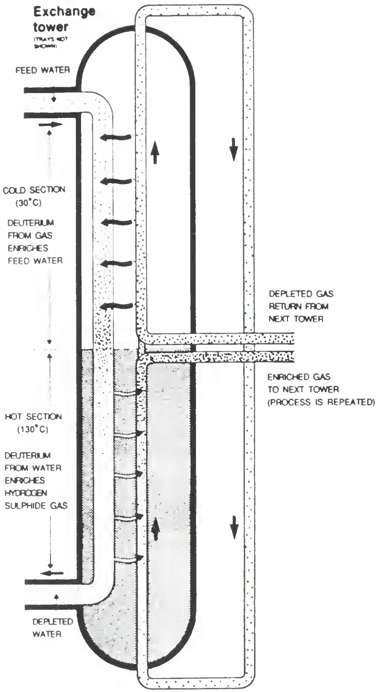

Figure A.4 Heavy-water Upgrading Process

VI WASTEWATER

The various processes employed in electric power generation and associated facilities result in process wastewaters of varying composition. A variety of pollutants, including both conventional and persistent toxic contaminants, may be found in the wastewaters. Characterization of wastewaters from thermal generating stations, performed by the United States Environmental Protection Agency (1) and Environment Canada (2,3), have identified many contaminants present.

Conventional pollutants which may be present include acids, bases, suspended solids, dissolved solids, oil and grease, organic carbon and nitrogen. Conventional pollutants may originate from raw materials, products and by-products. Toxic pollutants may include metals, phenols, and chlorinated hydrocarbons. The pollutants may originate from raw materials, products, by-products, and from other chemicals used on-site.

The characteristics of untreated process wastewaters generated within the various categories of generating stations tend to be similar in composition.

At hydraulic generating stations, few pollutants are expected due to the nature of the operation. Oils and grease originating from machinery and transformers are the most likely contaminants to be discharged. No treatment systems are located at these stations. Approximately 57% of the stations in service collect building drainage in sumps at the lowest point in the building, which are pumped out to the tailrace when they reach a high level. The remaining stations do not have sumps due to their design, and effluents drain directly back into the watercourse via drain systems.

Fossil-fuelled thermal generating stations may discharge pollutants from a variety of effluent streams (Fig. A.5). The streams of major concern are: coal pile effluents, wet ash handling systems, boiler blowdown, and water treatment plant wastes. Coal pile effluents are acidic, and have suspended solids, dissolved metals, and organic compounds. Ash handling effluents are normally basic, have suspended and dissolved solids, and contain metals. Boiler blowdown has altered pH, dissolved and suspended solids containing metals, and unconsumed boiler treatment chemicals which are used to scavenge oxygen. Water treatment plant wastes may be either acidic or basic, and have dissolved and suspended solids as a result of the removal of water hardness. Drain systems may contain suspended solids, oil and grease, and spilled chemicals.

Nuclear-powered thermal generating stations discharge effluents (Fig. A.6) which include water treatment plant wastes and boiler blowdown streams similar to those found at fossil-fuelled stations. Radioactive effluents are collected and held in tanks, and may be discharged at controlled rates without further treatment. If radiation levels are high, the effluents may be retained in tanks or are treated before being discharged.

Untreated process wastewaters generated at the various facilities associated with nuclear power generation tend to be different in composition, depending on the site.

Heavy water plants routinely discharge seal oils, hydrogen sulphide (containing mercaptans), diethanolamine (used to recover H_2S), and antifoaming agents.

Chalk River Nuclear Laboratories discharge a variety of streams similar to those found at nuclear generating stations, however, at much smaller volumes. The effluents include cooling water used for the nuclear reactors, boiler blowdown, water treatment plant effluents, radioactive effluents, waste disposal site effluents, and effluent from the sanitary sewage treatment plant.

At the partially-decommissioned Waste Management Facilities, the effluents discharged are primarily stormwater and building drainage. Potentially radioactive effluents are collected and if required, are transported offsite for treatment.

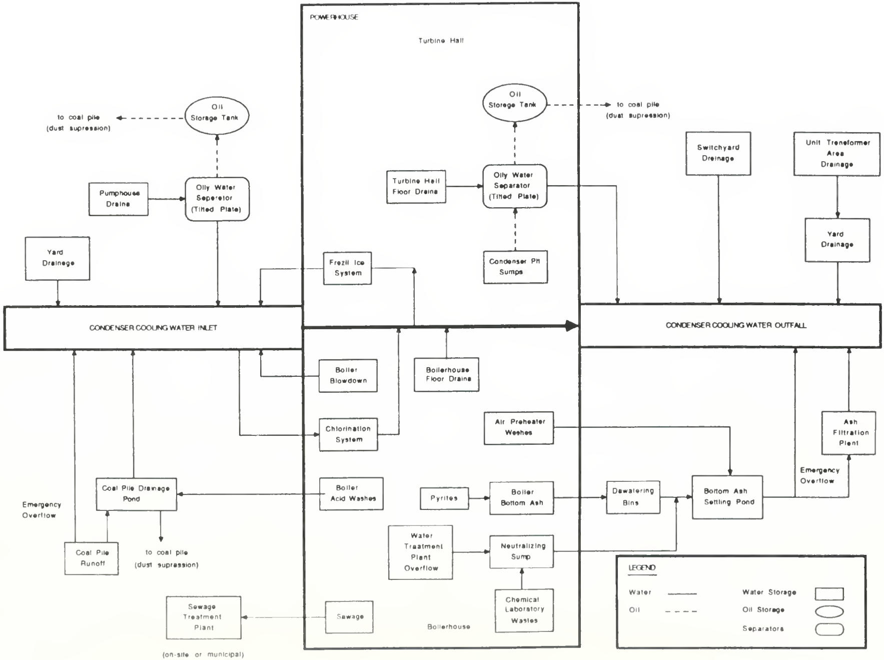

Figure A.5 Effluent Pathways for a Typical Fossil-fuelled Thermal Generating Station

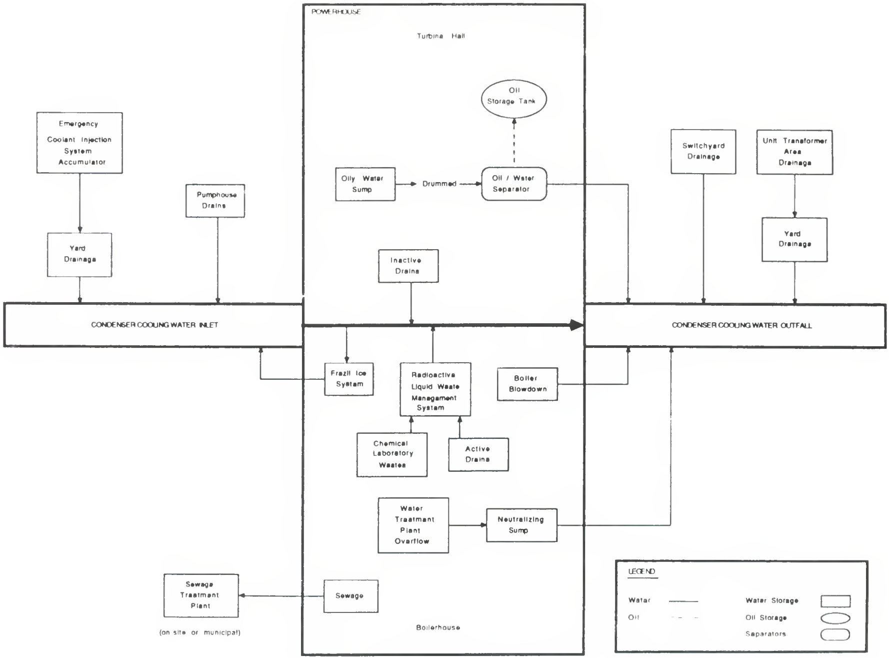

Figure A.6

Effluent Pathways for a Typical
Nuclear-powered Thermal Generating Station

VII IN-PLANT CONTROLS

In-plant controls are methods of limiting the discharge of pollutants by performing process modifications, chemical substitutions, and water reduction and recycling.

Process modifications generally include measures to improve the efficiency of unit operations, thereby reducing the quantities of pollutants that may be discharged in the wastewaters.

An example of chemical substitution occurring at all older stations concerns transformers containing oils contaminated with polychlorinated biphenyls (PCB's). Depending on the level of contamination, the PCB's may be destroyed on site or the oil may be removed and incinerated. Replacement oils and new equipment contain no PCB's. Another example is currently occurring at nuclear-powered generating stations, where electrohydraulic control fluids which are used in high-pressure turbine governor systems (Fyrquel-EHC) are being replaced with a less toxic compound (Fyrquel-EHC-S).

The recovery of by-products through physical treatment processes or recycling, and through the control of spills from process or storage areas, will also reduce losses to the environment.

At fossil-fuelled thermal generating stations, boiler bottom ash is recovered from sluicing (ash transport system) water. Coal-pile effluent may be collected and re-used for dust suppression on the coal pile. Water reduction methods are practiced by using dry systems to recover flyash at all but one station. This last station has a wet system originally designed to recycle water, which will likely be converted to a dry flyash system in the future.

Generally, both process and storage areas at stations are designed to prevent spills from entering storm drain systems. Where there is great potential for contamination, treatment is provided downstream (e.g. oily water separation on drain systems).

Recycling of water and reducing water consumption, where practical, will also reduce contaminant losses.

VIII WASTEWATER TREATMENT

Both physical-chemical and biological processes may be used to control the pollutants discharged in wastewaters.

The majority of the EPG Sector stations and associated facilities use physical-chemical treatment methods on their process effluents. Some sites have sanitary waste treatment systems which may receive industrial wastes. Also, some effluent streams are discharged from sites directly to receiving waters without any form of treatment. The generating stations generally discharge effluents into once-through cooling water streams where the contaminants become significantly diluted.

Among the physical-chemical treatment technologies employed are: neutralization, oily water separation, coagulation, flocculation, sedimentation/clarification, filtration, adsorption/desorption, and steam stripping. Some examples of treatment methods used at various EPG facilities are provided below.

At thermal generating stations, water treatment plant regeneration wastes are usually neutralized in a sump before being discharged. Also, some drain systems which have the potential to be contaminated with oil have oily water separation equipment installed.

At fossil-fuelled stations, coal-pile effluent is neutralized, and in some cases is filtered, before discharge. Bottom ash sluice water is clarified and filtered prior to discharge.

At the heavy-water plant, steam stripping is used to recover hydrogen sulphide from the enriching tower effluent.

Biological treatment systems are used primarily for sanitary sewage, however, industrial wastes may also be directed to these systems for treatment. Biological treatment involves contacting the wastewater with microorganisms which metabolize the wastes for energy production and synthesis of new cells. Biological treatment technologies include activated sludge systems, rotating contactors, and lagoons.

The site under construction currently uses rotating biological contactors, designed to treat sanitary sewage from the station, for treating both sanitary and industrial wastes. The industrial wastes consist of pipe-cleaning rinse tank effluents. When construction is complete, only sanitary sewage from the generating station will be directed to this treatment system.

At Chalk River Nuclear Laboratories, sanitary wastes are only clarified and chlorinated before discharge.

IX THE ELECTRIC POWER GENERATION SECTOR IN ONTARIO

The electric power generation industry in Canada is very large, consisting of over two hundred generating stations. Of the 86 stations and associated facilities located in Ontario which are direct dischargers, 24 will be monitored under the MISA program. Only six of the 68 major hydraulic generating stations are presently being included to represent the category, since hydraulic stations are not considered to be a major source of toxic contaminants released to waterways.

Of the 24 EPG Sector sites that are to be monitored, 19 are located in southern and central Ontario near large population centers, and the remaining five are located in northern Ontario.

The Electric Power Generation Sector facilities in Ontario are operated or owned by two companies, Ontario Hydro and Atomic Energy of Canada Limited (AECL).

Ontario Hydro is a provincial crown corporation, which in 1987 supplied approximately 95% of the electricity consumed in Ontario. It had a total generation capacity of 32,123 megawatts (MW) compared to a national total of 100,638 MW in 1987 (4). In the EPG Sector, Ontario Hydro produces electricity at 68 hydraulic stations, six fossil-fuelled stations, and four nuclear-powered stations at two nuclear-power complexes. In 1987, of the electricity generated in Ontario, hydraulic generating stations accounted for 23.8%, fossil-fuelled stations 23.9%, and nuclear-powered stations 47.5% of Ontario's power requirements. Due to unusually warm and dry weather conditions, fossil-fuelled stations burned about 50% more coal than expected to offset a reduction in hydraulic generating capability. The remaining 4.8% of Ontario's power requirements were met by purchasing electricity from other utilities.

Ontario Hydro also operates a heavy water plant and a services site at one of the nuclear complexes, and has one nuclear site under construction (first unit expected to begin service in 1990). In addition, Ontario Hydro has two fossil-fuelled stations which are mothballed.

Atomic Energy of Canada Limited is a Federal Crown Corporation established in 1952 to "pursue researches and investigations with respect to atomic energy" and to "utilize, cause to be utilized and prepare for the utilization of atomic energy" for the continuing benefit of Canada and Canadians.

AECL currently consists of two operating divisions: Research Company and CANDU Operations. Two other divisions; Radiochemical Company and Medical Division, were transferred to the Canadian Development Investment Corporation in 1988 in preparation for privatization.

The Research Company operates major research laboratories at Chalk River, Ontario. Chalk River Nuclear Laboratories (CRNL) include research reactors

and carry out research in advanced reactor development, radiation applications and isotopes, and physics and health sciences.

CANDU Operations is responsible for the design and marketing of the CANDU nuclear power plant and providing Engineering Services. This division manages the partially-decommissioned nuclear sites at Douglas Point and the Nuclear Power Demonstration site at Rolphton, Ontario.

Captive generating plants, parallel (private) generators which are mostly hydraulic, and energy-from-waste plants are excluded from the sector at this time. The excluded sites are very small and together account for a small fraction of the electrical generating capacity in Ontario. Generating stations located on industrial sites (captive plants) are excluded because they would be covered under the specific Regulation for that Industrial Sector.

X SECTOR OVERVIEW

An overview of Electric Power Generation Sector sites is provided in this section. Information such as type of facility, site name, location, generating capacity, and fuel consumed are provided.

Detailed descriptions of individual facilities may be found in Appendix 1, "Summary Data of Electric Power Generation Sector Sites".

Site	Location	Capacity	Fuel
Hydraulic Generating Stations			
Aguasabon GS	Aguasabon River	44 MW	n/a
Arnprior GS	Madawaska River	80 MW	n/a
Sir Adam Beck No. 2 GS	Niagara River	1,328 MW	n/a
Decew Falls NF 23 GS	Old Welland Canal	144 MW	n/a
Pine Portage GS	Nipigon River	132 MW	n/a
Silver Falls GS	Kaministikwia River	48 MW	n/a
Fossil-fuelled Thermal Generating Stations			
Atikokan TGS	Marmion Lake	200 MW	coal
Lakeview TGS	Lake Ontario	2,400 MW	coal
Lambton TGS	St. Clair River	2,000 MW	coal
Lennox TGS	Lake Ontario	2,240 MW	oil
Nanticoke TGS	Lake Erie	4,096 MW	coal
Thunder Bay TGS	Lake Superior	400 MW	coal

Mothballed Fossil-fuelled Thermal Generating Stations

R.L. Hearn TGS	Lake Ontario	1,200 MW	natural gas (orig. coal)
J.C. Keith TGS	Detroit River	264 MW	coal
Thunder Bay TGS (unit #1)	Lake Superior	100 MW	coal

Nuclear-powered Thermal Generating Stations

Bruce NGS-A	Lake Huron	3,056 MW	uranium oxide
Bruce NGS-B	Lake Huron	3,345 MW	uranium oxide
Darlington NGS	Lake Ontario	3,524 MW (future)	uranium oxide
Pickering NGS-A	Lake Ontario	2,060 MW	uranium oxide
Pickering NGS-B	Lake Ontario	2,064 MW	uranium oxide

Facilities Associated With Nuclear Power Generation

Bruce Heavy Water Plants	Lake Huron	800 t/y	n/a
Bruce Nuclear Power Development - Services (includes: Bruce Nuclear Waste Storage Site, Bruce Sewage Processing Plant)	Lake Huron	n/a	n/a
Darlington NGS - Construction	Lake Ontario	n/a	n/a
Chalk River Nuclear Laboratories	Ottawa River	177 MW (thermal)	enriched uranium-aluminum alloy

Douglas Point Waste Management Facility	Lake Huron	n/a	n/a
Nuclear Power Demonstration Waste Management Facility	Ottawa River	n/a	n/a

REFERENCES

1) United States Environmental Protection Agency, "Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category", Washington D.C., November 1982 (EPA-440/1-82/029).

2) Environment Canada, "Environmental Codes of Practice for Steam Electric Power Generation - Design Phase", Ottawa, March 1985 (EPS 1/PG/1).

3) Environment Canada, "Environmental Codes of Practice for Steam Electric Power Generation - Design Phase, Appendices", Ottawa, December 1986 (EPS 1/PG/1A).

4) Energy, Mines and Resources Canada, "Electric Power in Canada", Ottawa, 1988 (M23-7/1987E).

PART B

<u>TECHNICAL RATIONALE FOR THE MONITORING REQUIREMENTS</u>

PART B TECHNICAL RATIONALE FOR THE MONITORING REQUIREMENTS

I INTRODUCTION

The purpose of the technical rationale is to explain the steps in the development of the Electric Power Generation (EPG) Sector Effluent Monitoring Regulation.

This section provides background information on the regulation process, the approaches considered in arriving at the monitoring approach for the Electric Power Generation Sector, the databases, criteria and general and specific rules used for parameter and monitoring frequency selection.

II DEFINITION OF THE ELECTRIC POWER GENERATION SECTOR

The Electric Power Generation Sector consists of facilities at which electric power is generated and includes fossil-fuelled thermal, nuclear-powered thermal and hydraulic generating stations as well as facilities associated with nuclear power generation. In total, there are eighty-six generating stations and associated facilities in the Electric Power Generation Sector.

The Sector includes all sixty-eight hydraulic generating stations owned/operated by Ontario Hydro. For the purposes of the effluent monitoring regulation, only six of these stations are to be monitored because of the similar processes used at all of the hydraulic generating stations and the minimal potential for environmental impact. These six hydraulic generating stations represent the full range of operating capacities at generating stations within the province.

The facilities associated with nuclear power generation are those which are located at power generation facilities and, in some way, provide a support function to the generating stations. The Bruce Heavy Water Plant and Sewage Processing plant are two such facilities which are associated with the Bruce Nuclear Power Development, but at which electrical power is not actually generated. It was considered appropriate to include such facilities in the Sector as they are owned and/or operated by power generating facilities and provide support to the electric power generation process.

Three of the facilities associated with nuclear power generation are owned by Atomic Energy of Canada Limited. These facilities are included in the Sector for the following reasons:

1. The facilities are regulated by the Atomic Energy Control Board for radionuclide releases only. At this time, the release of most conventional and priority pollutants to receiving watercourses are not monitored or regulated.

2. The facilities, at some time, have operated CANDU-type nuclear reactors similar to those used at all other nuclear-powered thermal generating facilities and therefore could generate similar conventional and priority pollutants.

The Electric Power Generation Sector may be defined using the Standard Industrial Classification (SIC) codes, developed in Canada for data gathering purposes by Statistics Canada (1). The Electric Power Systems Industry is classified as SIC code 4911 and includes all fossil-fuelled and nuclear-powered thermal generating stations. SIC code 4999 includes all facilities in the Electric Power Systems Industry which are not elsewhere classified, such as the Bruce Heavy Water Plant and Waste Storage Site. Fossil-fuelled and nuclear-powered thermal generating stations which are under construction are classified under SIC code 4111. Hydraulic generating stations are not classified with a SIC code.

The SIC codes applicable to this Sector and the generating stations and associated facilities classified under these codes are listed in Table 1 of Appendix 2.

III THE NEED FOR REGULATION

Currently the Electric Power Generation (EPG) Sector stations monitor and report only certain standard parameters and conventional pollutants under the Ministry of the Environment's Industrial Monitoring Information System (IMIS).

At this time, only eight of the twenty-four generating stations and associated facilities to be monitored under the MISA program report information through IMIS.

The data reported to the system include once-through cooling water effluent flow, temperature and temperature rise of effluent for each of the generating stations. In addition, some of the generating stations and associated facilities report the following parameters: pH, biochemical oxygen demand (BOD5), total suspended solids (TSS), volatile suspended solids (VSS), total phosphorus, total Kjeldahl nitrogen (TKN), sulphate, hydrogen sulphides and selected metals.

Monthly average data for each of the generating stations are published by the Ministry of the Environment in an annual report entitled "Report on the Industrial Direct Discharges in Ontario" (2).

Requirements for the standard parameters and conventional pollutants reported under IMIS are imposed by Certificates of Approval. Ministry guidelines are derived from various sources including Provincial Water Quality Objectives (PWQO) and previously published guidelines for industrial sectors.

Provincial Water Quality Objectives are currently available for a total of 74 conventional and priority pollutants, of which 51 are priority pollutants. Several of the PWQOs are listed in the Ministry of the Environment's publication entitled "Water Management: Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment" (3). It is the goal of the Ministry to:

1. Establish PWQOs or Guidelines for all of the EMPPL substances identified on the Ontario Effluent Monitoring Priority Pollutants List (EMPPL) that possess the potential for moderate to high aquatic environmental damage.

2. Assemble the available aquatic toxicological and other appropriate information for the remaining EMPPL substances and maintain the capability to set Provincial Water Quality Guidelines for such substances on demand.

There are currently no regulations for specific toxic and persistent pollutants in this Sector. Currently only a limited database exists on the concentrations and/or loadings of priority pollutants being discharged into surface watercourses. Historically, monitoring of effluents from this Sector has focused on final discharge points (outfall) only. Special studies have been carried out on discharges from coal pile treatment system and ash transport water system discharges. Process effluents which may contain priority pollutants have not generally been monitored at the source. Conventional parameters have been monitored at certain sites routinely.

Environment Canada has published a document entitled "Environmental Codes of Practice for Steam Electric Power Generation - Design Phase" (4,5). The Design Phase Code was developed by a federal-provincial-industry Task Force, and includes data and recommendations for the design of thermal power station water and wastewater systems. These environmental protection standards include recommendations for monitoring facilities, as summarized in Table 10 (Appendix 2).

The Atomic Energy Control Board (AECB) is a federal regulatory agency with jurisdictional authority over nuclear-powered thermal generating stations which implements control through a licensing system. The AECB controls the discharge of radionuclides.

The lack of information and of suitable regulatory requirements from any jurisdiction defines the need for a comprehensive database on the discharge of conventional and priority pollutants from generating stations and associated facilities in the Electric Power Generation Sector. As outlined in the Ministry of the Environment's White Paper (6), the MISA Effluent Monitoring Regulation for the Electric Power Generation Sector will provide this technically sound database.

An effluent limits regulation for the Electric Power Generation Sector will be based on the database developed under the effluent monitoring regulation in conjunction with data on Best Available Technology Economically Achievable (BATEA). The effluent limits regulation will ensure that the required

technology is put in place to provide treatment of priority pollutants in process effluents and will work towards the goal of virtual elimination of toxic pollutants discharged to surface watercourses.

IV THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND ENVIRONMENT CANADA EXPERIENCE

Primary effluent limitations guidelines for the Steam Electric Power Industry were originally published by the U. S. Environmental Protection Agency in October 1974. The guidelines addressed only fossil-fuelled and nuclear-powered thermal generating stations. Hydraulic generating stations were not addressed as they are not part of the steam electric power industry and their direct discharges are considered to have minimal environmental impact. As a result of successful court challenges, the following events occurred:

> A Settlement Agreement in June of 1976 between the Natural Resources Defense Council (NRDC) and the U.S. EPA required that the EPA develop and promulgate effluent limitations guidelines reflecting Best Available Technology Economically Achievable (BATEA), standards of performance for new sources and pretreatment standards for existing and new sources for 21 major industries in the U.S.
>
> In July of 1976, the U.S. Court of Appeals remanded for reconsideration various parts of the October 1974 effluent limitations guidelines for the Steam Electric Power Industry.
>
> Amendments to the Clean Water Act in 1977 required the review and revisions, if appropriate, of each effluent limitation or standard to be promulgated by U.S. EPA at least every three years. This requirement has not been implemented in this sector in the U.S.

As portions of the 1974 effluent limitations guidelines were remanded, the U.S. EPA initiated further studies and data gathering from representative facilities in the Steam Electric Power Industry in order to obtain a stronger basis for issuing new effluent limitations guidelines.

New effluent limitations guidelines for the Steam Electric Power Industry were published in November of 1982 and is entitled "Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category" (7).

The Steam Electric Point Source Category includes fossil-fuelled and nuclear-powered thermal generating stations. The limitations imposed are identical for both types of generating stations and include limitations for the following pollutants: pH, total suspended solids, solvent extractables (oil & grease), copper, iron and PCB's. In addition, total residual chlorine (TRC) and total residual oxidants (TRO) are limited on once-through cooling water streams.

The MISA Monitoring Regulations for the Electric Power Generation Sector are consistent with applicable recommendations (Table 10, Appendix 2) of Environment Canada's Design Phase Code, and are generally more comprehensive and stringent than the Code recommended practices as well as the U.S. Effluent Limitations Guidelines of 1982. The rationale for this approach is that the data base will be used to develop BATEA driven limits of the 1990's for the EPG Sector of Ontario.

The MISA program is taking the approach of developing a technically sound database by requiring all of the facilities in the Electric Power Generation Sector to carry out twelve months of monitoring for a list of conventional and priority pollutants on each of its effluent streams with the potential for contamination from process materials. The monitoring data is to be obtained through an effluent monitoring regulation which specifies sampling and analytical protocols, parameters and frequency of monitoring, flow measurement, toxicity testing and reporting requirements for each of the stations/facilities in the Sector.

V THE MINISTRY / ELECTRIC POWER GENERATION SECTOR DIALOGUE

The Ministry adopted an open consultative process with representatives from the Sector in developing the Effluent Monitoring Regulation for the Electric Power Generation Sector. The MISA Advisory Committee (MAC) provided input to the development process. Members of this committee are appointed by the Minister of the Environment on the basis of their knowledge, concern and expertise in matters dealing with the environment.

A Joint Technical Committee (JTC) consisting of representatives from the Sector, the Ministry and Environment Canada was established as a means for developing the monitoring regulation and its requirements through a consensus building approach as far as possible. The Sector was represented by Ontario Hydro, as they are currently the owners and/or operators of all of the generating stations in the Sector. A member from the Atomic Energy Control Board (AECB) and two members from Atomic Energy of Canada Ltd. also sat on the committee on a voluntary basis, for the purposes of receiving and providing information on the program. A member of the MISA Advisory Committee was also invited to take part in the JTC discussions.

Agreement was reached with Sector representatives on the principles which were to serve as general guidelines for the development of the monitoring regulation. A subcommittee of Ministry and Environment Canada representatives used the guidelines to develop the technical rationale to establish monitoring requirements for the Sector. A Regulation Writing Subcommittee consisting of Ministry, Environment Canada and Sector representatives then drafted a regulation for review by all members of the JTC.

On the basis of the technical rationale, and U.S. EPA / Environment Canada experience and databases available to the Ministry, monitoring requirements

for effluent streams at each of the stations were established. The monitoring requirements were subsequently reviewed with representatives of the Sector and modified where warranted by technical and practical considerations.

VI APPROACHES TO ROUTINE MONITORING

The simplest approach to the development of monitoring requirements for the Sector would be to have a single uniform requirement for all of the generating stations in the Sector, regardless of the method used to generate power at a station. However, the Sector consists of hydraulic generating stations, fossil-fuelled thermal generating stations, nuclear-powered thermal generating stations and facilities associated with nuclear power generation, which produce or aid in the production of electric power using different technologies and with different process materials. A single uniform requirement is therefore not practical nor cost effective for this Sector.

Environment Canada, in documenting its Design Codes of Practice for the Steam Electric Power Industry (4,5), applied a general approach for the purpose of developing the guidelines. In this document, environmental concerns associated with water-related and solid waste activities of the steam electric plant are discussed. This approach was found to be unsuitable for the development of the monitoring regulation for this Sector as it applied uniform requirements and did not take into consideration hydraulic generating stations.

The approach used by the U.S. EPA in regulating power generating stations in the Steam Electric Point Source Category is a generic stream-specific approach which regulates pollutant discharges from both fossil-fuelled and nuclear-powered thermal generating stations, and does not differentiate between methods of power generation. Hydraulic generating stations are not regulated under the U.S. EPA in this category.

Recognizing the differences in methods used to generate power at each of the generating stations, it was concluded that the most appropriate approach for the development of monitoring requirements for this Sector is one based on the method used for power generation. The following categories were established in the Electric Power Generation (EPG) Sector:

1. Hydraulic generating stations.
2. Fossil-fuelled thermal generating stations.
3. Nuclear-powered thermal generating stations.
4. Facilities associated with nuclear power generation.

VII THE CATEGORY-SPECIFIC MONITORING APPROACH

The category-specific monitoring approach addresses similarities in effluent streams from generating stations due to similarities in processes used, process materials and effluent treatment available. However, it was recognized that site-specific considerations at some of the stations may require modifications to the category-specific approach at a particular station or facility.

There are 68 hydraulic generating stations in Ontario. Effluents from these stations do not vary widely and consist of once-through cooling water, potentially contaminated building effluent and storm water. The release of process materials, such as oils and greases used for lubrication, is monitored by consumption. Six representative sites were chosen from the 68 hydraulic generating stations. A category-specific approach is therefore suitable for hydraulic generating stations.

Fossil-fuelled thermal generating stations include those fuelled by coal, oil or natural gas. This category consists of eight stations, five of which burn coal and one of which burns oil. Also included in this category are two mothballed stations (the station is shut down but the equipment is stored and maintained operational) which have the potential to discharge pollutants through storm water runoff. The similarities in this category warrant that generic category-specific monitoring requirements be developed for all of the generating stations in this category.

The nuclear-powered thermal generating stations in this Sector all use the same methods of power generation and therefore a category-specific monitoring approach is suitable.

Facilities associated with nuclear power generation each required site-specific monitoring requirements due to their differences in processes, process materials and effluent treatment available.

Monitoring will be required on all process effluent streams prior to dilution. However, in cases where the process effluent streams are not segregated from other effluent streams, a combined effluent stream will be monitored. This is consistent with the other industrial sectors to be regulated under the MISA program. As all of the generating stations in the Sector use a vast quantity of cooling water, the potential for dilution of both conventional and priority pollutants at the point of final discharge from the station is great.

Final effluent streams (final outfalls) from each of the generating stations will be monitored as once-through cooling water effluent streams, as the streams will be about 95% once-through cooling water at this point. Dilution of the process effluents will mask the concentration of contaminants discharged in the final effluent and will not provide an indication of the actual impact of the process effluent streams on the receiving watercourse. However, any effluent limits to be developed would be based on process effluent streams prior to dilution and masking of the contaminants.

Other effluent streams, such as storm water, coal pile effluent, waste disposal

site effluent, potentially contaminated building effluent, equipment cleaning effluent and emergency overflow effluent, which have the potential for contamination by process materials or process effluent and which discharge to a surface watercourse, are also required to be monitored.

Category-specific and site-specific monitoring schedules were developed for each of the generating stations and associated facilities to reflect the monitoring requirements on each of the effluent streams at the stations. Biological monitoring requirements are required for certain effluent streams. Toxicity testing using both the fish toxicity test (Rainbow trout) and the Daphnia magna acute lethality toxicity test is required.

VIII PARAMETERS FOR ROUTINE MONITORING

a) Ontario Effluent Monitoring Priority Pollutant List (EMPPL):

The monitoring schedules developed for the generating stations and associated facilities in the Sector include both conventional and priority pollutants. The list of priority pollutants to be monitored is based on a subset of the 1988 Ontario Effluent Monitoring Priority Pollutants List (EMPPL).

The derivation of the EMPPL is fully documented in a Ministry report dated July 1988 (8). The Effluent Monitoring Priority Pollutants List (EMPPL) includes those chemicals detected in Ontario municipal and industrial effluents and in Ontario waterways which pose a hazard to the receiving environment because of their toxicity and persistence. The potential presence of a chemical based on use and manufacturing data could also have placed it on the EMPPL.

The EMPPL is not a static list of chemicals of concern, but one which will be revised at regular intervals to reflect additional chemicals which are promoted to the list as a result of information on their toxicity or persistence as assessed under EMPPL criteria. The 1988 EMPPL listed 179 chemicals. A review of toxicity and persistence criteria of other chemicals identified as present in effluents from particular industrial sectors has resulted in an additional 87 chemicals being added to EMPPL (9). The list will continue to expand and include new chemicals of concern as additional information is available. Of the 266 chemicals on the current EMPPL, only 141 have validated analytical protocols.

The Electric Power Generation Sector list for effluent monitoring is derived from a subset of the revised 1988 EMPPL. The EPG Sector list includes 136 chemicals on the revised EMPPL for which validated analytical protocols are available. Analytical test groups 13 (Total alkyl lead) and 18 (Volatiles, Water Soluble) were excluded from the EPG Sector list as there is no evidence to suggest that these compounds could be present in the effluents from this Sector, nor are they used by the generating stations and their associated facilities.

Table 2 of Appendix 2 lists the chemicals on the revised 1988 EMPPL. The chemicals are listed as belonging to an analytical test group, derived for the purpose of the monitoring regulations. Those chemicals with validated analytical protocols available are noted as such.

In addition to the priority pollutants on the EPG Sector list, conventional pollutants and pollutants of specific concern to this Sector are to be monitored. Table 3 in Appendix 2 lists the conventional pollutants, EMPPL priority pollutants and sector-specific pollutants arranged by analytical test group. These pollutants form the basis of monitoring in the EPG Sector.

b) Radioactive Emissions from Nuclear-Powered Thermal Generating Stations Associated Facilities: (Source: AECL/AECB)

The EPGS regulation does not include a requirement to monitor the releases of radioactive materials from nuclear facilities since the limits (both concentration and total loading) and the reporting requirements are set by the Federal Government through the Atomic Energy Control Board (AECB). It is the AECB which regulates the public safety requirements for radioactive materials emissions. These requirements are set by using guidelines which are used in most countries around the world.

i) Effluent Monitoring: Monitoring for radioactivity occurs in individual streams, in the outfall and in the environment around the station. The AECB requires that the nuclear-powered thermal generating facilities and associated facilities be able to detect leaks of radioactive water into cooling water streams which have been through a heat exchanger in contact with reactor water. Some streams are fitted with continuous monitors which can detect leakage of reactor water into the cooling water. These monitors alarm as soon as there is any leakage, warning the operator of the abnormal condition. Routine sampling of the water is carried out using an independent analytical method.

The CANDU reactor uses heavy water. This water contains almost all of the mobile radioactivity. Leakage is collected and the water is cleaned, upgraded and returned to the reactor. In this way an estimated 99% of the radioactivity is removed and recycled back into the reactor.

The facilities are designed so that all floor drains in areas where there may be radioactivity must flow to radioactive sumps. These sumps are pumped out to a large collection tank (the Radioactive Liquid Waste Management System (RLWMS) Tank), and if the radioactivity level is high then the water is sent to a separate tank for treatment.

The RLWMS tanks fill up during normal operation of the station collecting water from the floor drains, showers, laundry and clean up facilities. The tank fills to a set point, and is then isolated from the drainage system so that no new water can enter the tank. Water enters the next receiving tank. The isolated tank water is placed in a recirculating mode so that the contents of the tank are well mixed. After a mixing period of about 4 hours

the tank is sampled and the sample analyzed for the heavy water and radioactive materials concentrations by the station staff using procedures that have been accepted by the AECB.

Upon analysis, if the radioactive material concentration in the tank exceeds the allowable concentration, the water is transferred to another system where the water may be cleaned up. The clean-up system is normally only required for a few tanks each year. All of the water pumped out to the environment must meet AECB requirements.

The outfall of the station or facility is sampled on a continuing basis to ensure that any leak or escape of radioactivity from any other source is monitored. This sample is analyzed weekly in a special laboratory using special materials and equipment which allows for an extremely sensitive measure of the radiation levels. If there is a slight increase in the radiation levels above the background level it would be detected and remedial action can then be taken.

ii) Environmental Monitoring: Monitoring is carried out beyond the facility boundary. Samples of the plant and aquatic life in the area of the facility as well as sediment samples are taken to determine if there is any increase in the local levels of radioactive materials. This monitoring is used to confirm the validity of the models used and to confirm that the radioactive materials remain within acceptable levels.

iii) Limits: The AECB requires that the releases of radionuclides into the receiving waters and into the atmosphere must remain below set levels. These levels are set so that the person most affected would not be exposed to an unacceptable risk from radiation and all other persons would be exposed to a lower risk. Modelling of the movement of the radionuclides in the environment is used to determine the maximum allowed release, based on a limit dose of radiation, to a person most affected, of 5 milliSieverts per year (a milliSievert is a unit of effect of radiation).

Canadian nuclear power plants have set a design and operating target of 1% of the dose limit resulting from the combined release of all radionuclides. If the target is exceeded, the facility staff must take action to reduce releases and meet the target. Overall, nuclear power plants are designed to keep releases of radioactivity "As Low As Reasonably Achievable" (ALARA). This means that, if there is a net benefit to reducing releases, then it shall be carried out.

c) Polychlorinated biphenyls (PCB's) at Ontario Hydro:
(Source: Ontario Hydro)

i) Use of PCB's and Inventory:

Polychlorinated biphenyls and Askarels (i.e. blends of PCB's and chlorobenzenes) are causes of great concern to the public due to the

possibility of adverse environmental and health related effects that may result from the bioaccumulation or human contact with PCB's or their by-products. Ontario Hydro has large volumes of PCB's and Askarels in service throughout its electrical system as a result of intentional use and unintentional contamination, both of which occurred before Ontario Hydro and the public became aware of the potential hazards of their use.

A program to remove PCB-filled (Askarels) transformers at hydraulic generating stations and their replacement is underway.

At the fossil-fuelled stations, there are 521,830 litres of Askarels in use, contained in 586 transformers, 23 magnets, 18 capacitors and 17 other pieces of equipment. There are also 7 storage site containing 4543 litres of Askarels and a number of drums of PCB contaminated solid waste and pieces of equipment taken out of service.

At nuclear-powered thermal generating stations and facilities, there are 204,190 litres of Askarel contained in 169 pieces of equipment still in service. There are also four approved storage sites containing waste Askarel and pieces of out-of-service equipment.

ii) PCB Management:

Ontario Hydro has developed a Mobile Processing Unit for the treatment or cleansing of PCB's from oil with low levels of contamination. In 1988, Ontario Hydro's president directed all Branches to establish a plan and schedule to eliminate all low level liquid PCB's in storage and to develop a plan for the destruction of all high level liquid PCB's and solid PCB contaminated material in storage.

Corporate and Branch policies and procedures have been developed by Ontario Hydro that ensure company compliance with government regulations and encourage responsible handling, transportation and storage practices. Ongoing management practices include the labelling of all PCB-containing equipment and wastes, the provision of containment structures around PCB-containing equipment, monthly inspections of all equipment and the maintenance of accurate inventory records. Emergency action programs have been developed to respond to spills and staff have been trained in proper PCB management techniques.

iii) Program to Eliminate PCB's:

The PCB contaminated oil Retrofilling and Decontamination programs are now well established. These programs are expected to result in the treatment of 80% of all PCB-contaminated insulating oils between 1989 and 1993. During 1989, two Mobile Processing Units will decontaminate 1,250,000 litres of PCB-contaminated oils. As each year of retrofilling program is completed, the program's focus will move successively from larger to smaller transformers, to breakers, to pole-tops and finally to bushings and other miscellaneous

equipment.

All of the Askarel or high-level equipment is planned to be phased out by 1998. The costs for phase-out and replacement is estimated at $44.3 million (Ontario Hydro estimate) at fossil-fuelled stations and $18.3 million (Ontario Hydro estimate) at nuclear-powered stations and facilities. At the present time, there is no approved destruction process or facility in Ontario. The equipment taken out of service will be placed in government approved secure storage until an approved destruction process is available.

iv) Measuring PCB's in Effluent Monitoring Regulations:

Certain effluents will be analyzed for PCB's at all the EPGS facilities included under the MISA Effluent Monitoring Regulations. As a result of Ontario Hydro's PCB management program, PCB's would not normally be found in any process effluent stream. The emphasis then, will be to analyze those streams at risk of contamination as a result of spills or leaks. All storm waters, since many drain areas around transformers or other electrical equipment, are to be analyzed. Similarly, certain oily water separators, radioactive liquid waste management system tanks, and sewage treatment plant effluents are to be analyzed, as these systems are designed to receive and treat drains that may be contaminated. Also, all process effluents will be checked for PCB's during quarterly characterization of these effluents.

IX DATABASES USED FOR PARAMETER SELECTION

In the development of the category-specific and site-specific monitoring schedules, both current and historical monitoring data of conventional and priority pollutants in effluent streams from the Sector were considered. However, very limited information was available on many of the process effluent streams which necessitated that a pre-regulation monitoring program be established.

A voluntary pre-regulation monitoring program was established with the EPG Sector in order to obtain current data on the presence or absence of chemicals found in representative process effluent, once-through cooling water, potentially contaminated building effluent, storm water, and waste disposal site effluent streams from generating stations and associated facilities in each of the categories.

Characterization of effluent streams was conducted at twenty representative facilities, which included eight fossil-fuelled thermal generating stations, three nuclear-powered thermal generating stations and three hydraulic generating stations. Additionally, six facilities associated with nuclear power generation were also monitored. The effluent streams monitored included: intake water, process effluents, coal pile effluent, emergency overflow, yard drains, sumps, and final effluent streams. Table 4 in Appendix 2 provides a summary of the total number of effluent characterizations performed on the effluent streams at each representative generating station and associated facility in the pre-

regulation monitoring program. Table 5 in Appendix 2 provides an indication of the presence/absence of the EPG Sector list parameters found in the effluent characterizations on a site-specific basis.

Monitoring of the representative generating stations took place from June 1987 to December 1988. An initial round of sampling in June 1987 was found insufficient to provide the amount of data required for the development of the monitoring requirements. Two additional rounds of sampling were subsequently carried out by some of the generating stations and facilities. As a result, each representative station sampled effluent streams for up to three 12-hour periods for all of the parameters on the EPG Sector list plus additional parameters which are potentially present in the effluents but were not listed on EMPPL. All of the generating stations and associated facilities monitored their intake water for the same list of parameters.

As an inspection function, the Ministry also obtained its own 12-hour composite sample as part of the pre-regulation monitoring program from one effluent stream at each station or facility. The samples were collected on one of the days that the station was collecting its pre-regulation samples, during the second or third round of sampling. In addition to monitoring for parameters on the EMPPL, the Ministry ran open characterization analyses on the samples to tentatively identify compounds in the effluents which are not currently on EMPPL.

In response to a Ministry request, all stations in the Sector provided, as part of the pre-regulation monitoring program, comprehensive data on their operations including raw material and product lists, wastewater treatment and current monitoring programs at the station. This supplemental data was also used in the development of the category-specific and site-specific monitoring schedules.

The pre-regulation monitoring data was supplemented by historical data and information from the following sources:

- IMIS (Industrial Monitoring Information System);
- Pilot Site Studies (documented in the Preliminary Report - St. Clair River MISA Pilot Site Investigation - November 1987 (10);
- U.S. EPA Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category, November 1982 (7);
- Environment Canada's Environmental Codes of Practice for Steam Electric Power Generation - Design Phase (4,5);
- Ontario Hydro reports - monitoring and site operations data;
- Atomic Energy of Canada's pre-regulation monitoring data;
- Various position papers/reports/proposals tabled by Ontario Hydro and Atomic Energy of Canada Ltd.;

- Best Professional Judgement (BPJ) based on knowledge of processes, products, by-products and raw materials at each station.

The data from the current and historical databases available to the Ministry was reviewed and assessed on a category-specific and site-specific basis. The monitoring schedules specify the frequency of monitoring required for each parameter. A comprehensive rationale was developed to provide rules for the assignment of EPG Sector list parameters to daily, thrice weekly, weekly and monthly monitoring categories. The general and category-specific parameter and frequency assignment rules are documented in sections XII and XIII.

X CLASSIFICATION OF EFFLUENTS

Unlike other industrial sectors under the MISA program where process effluents are segregated and may be biologically treated prior to discharge, EPG Sector stations commonly have unsegregated streams where process effluents are mixed with cooling water streams. This factor necessitates the monitoring of process effluents prior to any dilution with cooling water in order to establish the potential impact of a process effluent stream.

The effluent streams identified at each of the EPG Sector stations were placed in one of the following twelve classifications:

- process effluent;
- combined effluent;
- boiler blowdown effluent;
- batch discharge effluent;
- event discharge effluent;
- once-through cooling water;
- storm water;
- coal pile effluent;
- waste disposal site effluent;
- potentially contaminated building effluent;
- equipment cleaning effluent;
- emergency overflow effluent.

Process Effluent

Process effluent streams include effluents from process areas in each of the generating stations in each category, with the exception of hydraulic generating stations. Hydraulic generating stations have no process effluent streams.

Following is a list of process effluents by category:

Hydraulic Generating Stations

- none

Fossil-Fuelled Thermal Generating Stations

- ash transport water system effluent;
- oily water separator;
- water treatment plant neutralization sump effluent.

Nuclear-Powered Thermal Generating Stations

- water treatment plant neutralization sump effluent.

Facilities Associated with Nuclear Power Generation

- condensate plant water treatment plant effluent;
- sewage treatment plant effluent;
- heavy water plant process effluent;
- water treatment plant effluent;
- waste treatment centre effluent.

Batch Discharge Effluent

Batch discharge effluent is a process effluent that is discharged on a routine basis. Batch discharges originate from wastewater treatment systems that do not have a continuous discharge of effluent. Only Radioactive Liquid Waste Management System Tanks at nuclear-powered thermal generating stations and the Chalk River Waste Treatment Centre are required to sample for batch discharge effluent.

Batch discharge effluent streams are considered as process effluent streams for all purposes of the General Regulation.

Event Discharge Effluent

Event discharge effluent is a process effluent that is discharged on an event basis. Event discharge effluent originate from wastewater treatment systems that do not have a continuous daily discharge of effluent. Some of the generating stations except hydraulic stations are required to monitor for event discharge effluent.

Combined Effluent

Combined effluent streams are required to be monitored where individual process effluent streams cannot be monitored prior to dilution with cooling water because of physical constraints. Combined effluent streams are present at two of the facilities associated with nuclear power generation.

The monitoring requirements for combined effluents are as stringent as those for related process effluent streams. There is no pre-regulation monitoring data available on the combined effluent streams from Bruce Nuclear Power Development - Services, however the major contributor to these streams is the boiler blowdown effluent which is similar in character to the Bruce NGS-A boiler blowdown effluent.

Boiler Blowdown Effluent

Boiler blowdown effluent is required to be monitored at each of the fossil-fuelled and nuclear-powered thermal generating stations. Boiler blowdown effluent streams are considered as process effluent streams for all purposes of the General Regulation, with the exception that the streams are sampled on a rotational basis for each of the operational units at a station and there are different flow measurement requirements. This requirement reflects the fact that boiler blowdown effluent should be of consistent quality across the units at an individual station. An example of a rotational sampling schedule is provided in Table 6 of Appendix 2.

The rotational sampling schedule provides for a minimum of twelve samples to be collected from each station and for sampling of each operational unit at least twice over the monitoring period of one year, regardless of the number of units at a station. Sampling of operational units is required to be spread out evenly throughout the year to the extent allowed by the operating schedule and by factors such as unit downtime.

At nuclear-powered thermal generating stations, each of the operational units has multiple boilers. Therefore, in order to obtain a representative sample from the operational unit, the sample collected will be a composite sample from each boiler blowdown line.

Coal Pile Effluent

Coal pile effluents are discharges from coal piles which result from storm-related events and are considered as storm water for the purposes of all obligations under the General Regulation. Coal pile effluent has previously been identified as being a major source of contamination in this category and is required to be monitored prior to any treatment.

Potentially Contaminated Building Effluent

Potentially contaminated building effluent results from sources within the station buildings which could include: effluent from equipment drains, floor drains, trenches, or sumps that are connected to; once-through cooling water streams, yard drains, or directly to a surface watercourse.

Specifically, this would include drainage effluent from coal bunkers, coal conveyors and pulverizers, coal or oil-fuelled boilers, ash handling equipment, chemical storage and handling, and equipment maintenance shops. Each of the generating stations and associated facilities may have several points of discharge through sumps.

For the purposes of the General Regulation, potentially contaminated building effluent is considered as waste disposal site effluent, as the effluent is normally discharged on an event basis triggered by high liquid levels in a sump.

Equipment Cleaning Effluent

Equipment cleaning effluent results from discharges from the periodic chemical cleaning of boilers, air preheaters and heat exchangers, and from periodic wet lay-up of boilers. For the purposes of the General Regulation, equipment cleaning effluent is considered as waste disposal site effluent since the effluent is discharged solely on an event basis.

Once-through Cooling Water

Once-through cooling water is required to be monitored at the final outfall after the addition of process effluents and other effluent streams as applicable. Once-through cooling water will be monitored at all of the generating stations and some of the associated facilities.

XI MONITORING FREQUENCIES FOR THE SECTOR

The monitoring schedules in the EPG Sector effluent monitoring regulation set out four basic frequencies of routine monitoring - daily, thrice weekly, weekly and monthly. The more stringent requirements for daily, thrice weekly and weekly monitoring are placed on process effluent, batch discharge effluent, combined effluent and boiler blowdown effluent streams.

As a result of the large amount of dilution that once-through cooling water provides, monthly monitoring is required in order to obtain an indication of the potential impact of the effluent on the receiving watercourse.

Due to the intermittent nature of the discharges and relatively low volumes released, storm water, event discharge effluent and coal pile effluent require monthly monitoring at the time of discharge. Similarly, waste disposal site effluent is storm event driven so that monitoring at the time of discharge is adequate. Potentially contaminated building effluent, equipment cleaning effluent and emergency overflow effluent are event based and are required to be monitored at the time of discharge or monthly whichever is less. Monitoring of these streams will provide an estimation of the potential impact on the receiving watercourse in comparison to process effluent streams.

Daily Monitoring

Daily parameter concentrations, when multiplied by daily flow rate, will provide daily loadings. The parameters chosen for daily monitoring are conventional parameters which may act as surrogates for other contaminants, and are possible indicators of treatment effectiveness and of process upsets.

Continuous on-line analysis for pH and specific conductance is the preferred method of monitoring. Average concentration levels do not give a true indication of instantaneous discharges.

On-line instrumentation will:

- measure short term spikes;
- allow determination of effluent variability by providing an indication of the variation of the recorded parameters with time;
- eliminate problems resulting from storage of samples;
- allow the combination of automatic monitoring systems with an alarm system that will give advance warning when a high concentration of an undesirable parameter occurs.

Data from daily monitoring will be used to provide an estimate of operational variability and to establish the daily versus monthly variability to establish future daily limits in relation to monthly limits.

Thrice Weekly Monitoring

The thrice weekly monitoring data will be used to:

- calculate monthly loadings and concentrations;
- provide a record of parameter variability including process load variations, treatment system upsets and spills;
- establish a basis of comparison for parameters monitored at other frequencies;
- aid in identifying parameters that require control;
- provide a basis for comparison of stations within the Sector;
- establish a basis for inter-sector comparison of loadings for these parameters;
- establish limits.

Weekly Monitoring

Weekly monitoring requirements are an economic and technical compromise between thrice weekly and monthly data. The weekly monitoring frequency will provide estimates of both concentrations and loadings which can assist in defining any future monitoring requirements and establishing limits.

The weekly monitoring data will be used to:

- verify the presence or absence of compounds;
- provide estimates of the concentrations and variability of the compounds for comparison with BATEA performance levels to evaluate the need for control of these compounds;
- determine the need for further monitoring for a given compound and to establish that frequency.

Monthly Monitoring

Monthly monitoring of relatively long lists of parameters is required to establish the presence or absence of contaminants of concern. The concentration data will be used in conjunction with flow measurement data to estimate annual loadings for each of the compounds detected. Monthly monitoring can also be used in the interpretation of toxicity data and establishing limits.

Monthly monitoring for selected analytical test groups is also required to determine the presence or absence of contaminants in the analytical test group. These analytical test groups are selected on the basis that at least one contaminant in the analytical test group is being monitored on a daily, thrice weekly or weekly basis. Analytical test groups are comprised of similar compounds so that the presence of one member may be indicative of other members also being present.

XII PARAMETER / FREQUENCY ASSIGNMENT - GENERAL RULES

Based on knowledge of this Sector, pre-regulation monitoring and historical data, and other background information, it was concluded that the monitoring of conventional and inorganic contaminants would be the focus of concern for this monitoring regulation.

The development of the category-specific and site-specific monitoring schedules for each of the categories was based on the following general guidelines:

A. The monitoring frequency for a given parameter is a function of the parameter type, the parameter concentration and effluent stream classification.

B. Each process effluent, boiler blowdown effluent, batch discharge and combined effluent stream will be monitored for parameters that are chara teristic of the processes used in the particular category.

C. All generating stations and associated facilities must monitor for the following core parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS) and solvent extractables.

   * These core parameters reflect the general level of environmental control achieved at the stations and facilities and will be useful for comparison purposes.

   * These core parameters are potential surrogates for other parameters.

D. For process effluent, combined effluent, boiler blowdown effluent and batch discharge effluent streams, the detection of one member of an analytical test group from the EPG Sector list at a level equal to or greater than the Ministry of the Environment analytical method detection limit (MDL), in the pre-regulation monitoring data, required the whole test group to be included for monthly/event monitoring.

* A conservative approach was adopted to ensure a comprehensive monitoring database.

* Analytical test groups are comprised of similar or homologous compounds so that the presence of one member is quite likely an indicator that the remaining members of the group could be present.

E. Storm water, coal pile effluent, waste disposal site effluent, potentially contaminated building effluent, equipment cleaning effluent and emergency overflow effluent streams in all categories will be monitored for the following core group of parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS) and solvent extractables.

* These parameters will facilitate a comparison of loadings from other effluent streams.

F. Stations or facilities with biological treatment (sewage treatment plants) must monitor the effluent stream for volatile suspended solids (VSS), total phosphorus and nitrogen (TKN, NH_3, nitrates + nitrites).

* These performance parameters are indicators of treatment plant performance in the case where nitrification/denitrification is used.

G. All generating stations and associated facilities will conduct toxicity testing on the following effluent streams: process effluent, combined effluent, boiler blowdown effluent, batch discharge effluent, event discharge effluent and once-through cooling water, except, when these effluents are being discharged along with other effluents for which toxicity testing is being conducted.

H. Parameters that are currently being monitored under the Industrial Monitoring Information System (IMIS) or a Certificate of Approval will be monitored at their existing frequency unless increased under this Regulation.

I. Best professional judgement was used for inclusion of process materials in the monitoring schedules based on high levels of use, even if none were found in the effluents above their MDL.

J. Best professional judgement was used for increasing frequencies above baseline requirements for special situations.

XIII PARAMETER / FREQUENCY ASSIGNMENT - SPECIFIC RULES

The rules used for the development of the monitoring schedules are specific to each category and, in some cases, specific to each generating station or associated facility.

In addition, the monitoring requirements for each category are placed on certain process effluent, boiler blowdown effluent, batch discharge, event discharge and combined effluent streams, and are indicative of the processes and process materials which contribute to that effluent stream. Not all process effluent, combined effluent, batch discharge, event discharge and boiler blowdown effluent streams at a generating station or associated facility are required to monitor for the same parameters.

A) PROCESS EFFLUENT, BATCH DISCHARGE EFFLUENT, COMBINED EFFLUENT, and BOILER BLOWDOWN EFFLUENT

Hydraulic generating stations have no process effluent, batch discharge effluent, combined effluent, or boiler blowdown effluent streams.

Monitoring is specified for all process effluent, and combined effluent streams at all fossil-fuelled and nuclear-powered thermal generating stations, and at several of the facilities associated with nuclear power generation. Boiler blowdown effluent streams are required to be monitored at fossil-fuelled and nuclear-powered thermal generating stations.

1) **Daily Monitoring**

All process effluent, batch discharge effluent, combined effluent, and boiler blowdown effluent streams in all categories are required to monitor for pH and specific conductance.

The following is a summary of the daily monitoring requirements on a category basis:

Fossil-fuelled thermal generating stations are required to monitor process effluent and boiler blowdown effluent streams for some or all of the following parameters: pH, specific conductance and total suspended solids.

Nuclear-powered thermal generating stations are required to monitor certain process effluent, batch discharge effluent and boiler blowdown effluent streams for some or all of the following parameters: pH, and specific conductance.

The facilities associated with nuclear power generation are required to monitor certain process effluent, batch discharge effluent, combined effluent and boiler blowdown effluent streams for some or all of the

following parameters: pH, specific conductance, total suspended solids (TSS), total residual oxidants (TRO) and sulphide.

The reasons for monitoring each of the listed parameters in each of the categories and a short description of what is measured with each parameter are summarized below.

pH

* a measure of the hydrogen ion concentration which indicates the acidity/alkalinity level in an effluent;

* pH and pH changes may alter the toxicity of pollutants to aquatic life;

* low and high pH values cause corrosion and may cause metals to dissolve from sludges and bottom sediments;

* PWQOs require pH to fall within the range of 6.5 - 9.5 in the final effluent stream to the receiving water (3);

* each of the categories are required to monitor pH daily as a gross indicator of effluent quality.

Specific Conductance

* indicator of the presence of dissolved inorganic salts which can impact aquatic organisms;

* each of the categories are required to monitor this daily as an indirect measure of the dissolved solids in the effluent;

Total Suspended Solids (TSS)

* gross measure of suspended material including volatile suspended solids (organic) and inorganic materials;

* organic fractions may include grease, oils, fibers, microorganisms and dispersed insoluble organic compounds;

* inorganic materials include sand, silt, clay and insoluble metal compounds;

* measure of the effectiveness of treatment system separation equipment;

* may be a substrate for toxic contaminants which can leach out in water;

* required to be monitored at fossil fuelled thermal generating stations because of the potential impact from ash transport systems, nuclear powered thermal generating stations and at associated facilities at which biological sewage treatment is provided.

Sulphide

* hydrogen sulphide is toxic to aquatic life (a function of temperature, pH and dissolved oxygen);

* required to be monitored at Bruce Heavy Water Plant because of the large usage of hydrogen sulphide in the process.

Total Residual Oxidants

* measure of total residual chlorine/oxidants;

* required to be monitored at sewage treatment plants at associated facilities.

2) **Thrice Weekly Monitoring**

i) Conventional Pollutants

The conventional pollutants chosen for thrice weekly monitoring serve as general indicators of the potential impact of a process effluent, batch discharge effluent, combined effluent or boiler blowdown effluent on the receiving watercourse. In certain cases, these parameters can also indicate treatment system performance. Ministry industrial effluent guidelines were used as a trigger above which thrice weekly monitoring would be required.

The following is a summary of the thrice weekly monitoring requirements on a category basis:

Fossil-fuelled thermal generating stations are required to monitor certain process effluent and boiler blowdown effluent streams for some or all of the following parameters: ammonia plus ammonium, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), volatile suspended solids (VSS), phenolics and solvent extractables.

Nuclear-powered thermal generating stations are required to monitor certain process effluent, batch discharge effluent and boiler blowdown effluent streams for some or all of the following parameters: ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus,

total suspended solids (TSS), volatile suspended solids (VSS) and solvent extractables.

The facilities associated with nuclear power generation are required to monitor certain process effluent, batch discharge effluent, boiler blowdown effluent and combined effluent streams for some or all of the following parameters: ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), volatile suspended solids (VSS), solvent extractables and phenolics.

The reasons for monitoring each of the listed parameters in each of the categories and a short description of what is measured with each parameter are summarized below.

Ammonia plus Ammonium (Total Ammonia)

* a measure of both ionized and un-ionized ammonia in effluents;
* ammonia is toxic to fish at levels above 0.02 mg/L (un-ionized, Ministry PWQO for this form of ammonia);
* the concentration of ammonia in its un-ionized state varies with pH and temperature;
* a concentration of 10 mg/L of total ammonia (approx. equivalent to 0.04 mg/L of un-ionized NH_3 (pH = 7; T = 20 degrees C) in the effluent was selected as the concentration at and above which thrice weekly monitoring is required. The PWQO for ammonia is 0.02 mg/L un-ionized ammonia.;
* required to be monitored at certain process effluent, combined effluent and boiler blowdown effluent streams in each of the categories as ammonia is used for pH adjustment in some boilers. Ammonia may also be concentrated in water treatment plant effluents.

Total Kjeldahl Nitrogen (TKN)

* a measure of both organic nitrogen and total ammonia;
* measure of nitrification in sewage treatment plants;
* required to be monitored at certain process effluent and combined effluent streams in nuclear-powered thermal generating stations and associated facilities because it provides a measure of the total organic nitrogen in an effluent.

Total Nitrates + Nitrites

- measure of denitrification in sewage treatment plants with nitrification;

- Ministry Drinking Water Objectives (health related) for total nitrates plus nitrites (NO_3 + NO_2) of 10 mg/L was used as the concentration at or above which thrice weekly monitoring is required;

- required to be monitored at certain process effluent and combined effluent streams in each of the categories.

Dissolved Organic Carbon (DOC)

- a measure of overall soluble organic carbon loading to the environment;

- potentially present in the effluent streams as a result of the usage of lubricating oils and greases, transformer oils, hydraulic fluids;

- required to be monitored at certain process effluent and combined effluent streams in each of the categories as it is a general process indicator and detects low levels of organic carbon in the effluents (MDL = 0.5 mg/L).

Total Organic Carbon (TOC)

- required whenever TSS concentration is greater than 15 mg/L to ensure that the significant particulate organic component is not missed as would be the case by doing DOC only;

- a relatively high detection limit of 5 mg/L precludes its general use in place of DOC;

- a measure of both particulate and dissolved organic carbon;

Total Phosphorus (Total P)

- phosphorus discharges to the Great Lakes are identified as a concern in the Canada-U.S. Great Lakes Water Quality Agreement;

- sewage treatment plant discharge guidelines = 1.00 mg/L;

- required to be monitored on certain process effluent and combined effluent streams in each of the categories where phosphates are added to the raw water conditioning process, boilers or at STPs.

Volatile Suspended Solids (VSS)

* a component of total suspended solids (TSS);
* measure of the organic biological floc associated with biological treatment systems;
* biological floc can be a carrier by adsorption for metals and less volatile organics;
* measure of the performance of separation equipment (clarifier) used in removing organic solids in biological treatment systems;
* required to be monitored on certain process effluent streams in each of the categories where there are oily water separators and in sewage treatment plants.

Phenolics (4AAP)

* the 4-amino antipyrine (4AAP) method measures total phenolics;
* tend to be ubiquitous contaminants and are thus good indicators of pollution severity;
* can taint fish at 1 ppb concentration;
* can be general indicators of treatment;
* required to be monitored on certain process effluent and combined effluent streams at fossil-fuelled thermal generating stations, nuclear-powered thermal generating stations and their associated facilities because it may potentially be concentrated through the boiler water demineralizing process or be associated with oils in oily water separators.

Solvent Extractables (Oil and Grease)

* measure of the gross hydrocarbon that could produce a visible film, sheen or discoloration on the surface of a watercourse;
* substances measured may include hydrocarbons, soaps, fats, oils and waxes;
* measure of groups of substances whose common characteristics is their solubility in Freon TM or hexane;
* can be a carrier for other toxic contaminants;
* required to be monitored in certain process effluent, combined effluent and boiler blowdown effluent streams in each of the

categories because of the usage of lubricating oils and greases, transformer oils, fuel oils and hydraulic fluids at the facility.

ii) Priority Pollutants

Thrice weekly monitoring for all other priority pollutants in the EPG Sector List was established using U.S. EPA data. Priority pollutants found in the databases available to the Ministry at concentrations above the medians of the long-term weighted means (LTM) listed by the U.S. EPA for BATEA facilities (Table 8 in Appendix 2) were placed in the thrice weekly monitoring category. The LTMs were established for the Organic Chemicals, Plastics and Synthetic Fibers Category for which BATEA has been determined to be biological treatment. Although the Electric Power Generation Sector is mainly inorganic in nature, the LTM values provide a framework on which to base a thrice weekly monitoring frequency assignment.

In all process effluents, batch discharge effluent, combined effluent, and boiler blowdown effluent streams, copper, zinc and iron are required to be monitored thrice weekly at fossil-fuelled and nuclear-powered generating stations. In cases where total copper, zinc and iron are required to be monitored thrice weekly at fossil- fuelled thermal generating stations, total metals are required on a weekly basis instead of monthly. This is in recognition of the fact that fossil-fuelled thermal generating stations plan to ship their samples to outside laboratories equipped with inductively coupled plasma (ICP) devices. Although iron is not a priority pollutant on the EMPPL, it is required to be monitored as a key parameter of concern for this Sector. These requirements reflect the results of the pre-regulation monitoring data and the approach taken by U.S. EPA to control the discharge of these parameters. The pollutants result through concentration in the boiler water demineralizing process or as a result of scale buildup.

3) **Weekly**

i) Conventional Pollutants

Weekly monitoring data for conventional pollutants will be used to determine the need for further monitoring for a given compound and to establish the appropriate monitoring frequency to allow the generation of data for future limits setting and control and may be used to establish limits.

Weekly data will also be used to provide estimates of both monthly and long term loadings for reporting to other jurisdictions.

The following is a summary of the weekly monitoring requirements on a category basis:

Fossil-fuelled thermal generating stations are required to monitor certain process effluent and boiler blowdown effluent streams for some or all of

the following parameters: total Kjeldahl nitrogen, nitrates plus nitrites, total phosphorus, solvent extractables and phenolics.

Nuclear-powered thermal generating stations are required to monitor certain process effluent, batch discharge effluent and boiler blowdown effluent streams for some or all of the following parameters: ammonia plus ammonium, total Kjeldahl nitrogen, total phosphorus, sulphide, solvent extractables and phenolics.

The facilities associated with nuclear power generation are required to monitor certain process effluent, batch discharge effluent, boiler blowdown effluent and combined effluent streams for some or all of the following parameters: total Kjeldahl nitrogen, nitrates plus nitrites, total phosphorus, total suspended solids, phenolics and solvent extractables.

ii) Priority Pollutants

Priority pollutants, listed in the EPG Sector List (Table 3 of Appendix 2), which were found at least once in the databases available to the Ministry above the Ministry MDL but below the long-term weighted means listed by the U.S. EPA for the Organic Chemicals BATEA facilities (Table 8 in Appendix 2), were placed in the weekly monitoring category.

4) **Monthly**

i) Conventional Pollutants

Monthly monitoring for conventional pollutants is required for all process effluent, batch discharge effluent, combined effluent and boiler blowdown effluent streams in the respective categories and associated facilities.

The following is a summary of the monthly monitoring requirements on a category basis:

Fossil-fuelled thermal generating stations are required to monitor certain process, and boiler blowdown effluent streams for some or all of the following parameters: ammonia plus ammonium, total kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), phenolics and solvent extractables.

Nuclear-powered thermal generating stations are required to monitor certain process effluent, batch discharge effluent and boiler blowdown effluent streams for some or all of the following parameters: nitrates plus nitrites and solvent extractables.

The facilities associated with nuclear power generation are required to monitor certain process effluent, batch discharge effluent, boiler blowdown effluent discharge effluent and combined effluent streams for

some or all of the following parameters: ammonia plus ammonium, total kjeldahl nitrogen, nitrates plus nitrites, total organic carbon (TOC), total phosphorus, total suspended solids (TSS), phenolics and solvent extractables.

ii) Priority Pollutants

Monthly monitoring data for both conventional and priority pollutants will be used to establish the presence or absence of the pollutant. Any one pollutant found above the Ministry MDL in the databases available to the Ministry in a process effluent, batch discharge effluent, combined effluent or boiler blowdown effluent stream triggered the assignment of the whole analytical test group for monthly monitoring.

In this way, the possibility of detecting similar compounds was selectively increased on the basis of at least one detection of an analytical test group member without the need to analyze for all of the other analytical test groups at a greater frequency for each effluent each month.

Knowledge of raw material usage, by-products, and products could also initiate monthly monitoring even if the parameters did not appear in the databases examined by the Ministry staff.

B) EVENT DISCHARGE EFFLUENT

The frequency of event discharges could vary from about once per week to twelve times per year.

Monitoring of event discharge effluent will provide an estimation of the impact of loadings from these discharges and also assess the efficiency of wastewater treatment systems.

Event discharges are required to be monitored during discharge at a minimum frequency of once per month. There are no event discharges at hydraulic generating stations.

Fossil-fuelled thermal generating stations are required to monitor event discharge effluent for the following group of parameters: pH, specific conductance, ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), total metals, iron, hydrides, hexavalent chromium, mercury, phenolics, solvent extractables and neutral chlorinated extractables.

Nuclear-powered thermal generating stations are required to monitor event discharge effluent for the following group of parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total suspended solids (TSS), volatile suspended solids (VSS), copper, zinc, iron, phenolics and solvent extractables.

The facilities associated with nuclear power generation are required to monitor event discharge effluent for the following group of parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total suspended solids (TSS), aluminum, copper, molybdenum, mercury, sulphide, PCB's, diethanolamine and solvent extractables.

C) BATCH DISCHARGE EFFLUENT

Batch discharge effluent results from batch discharges of the Radioactive Liquid Waste Management System Tanks at the nuclear-powered thermal generating stations and the Waste Treatment Centre at Chalk River Nuclear Laboratories. There are no batch discharges at any other facilities in the EPG sector. The expected frequency of these discharges are about three per day, or one hundred per month per station.

Monitoring of batch discharge effluents will provide an estimation of the impact of loadings from these discharges.

Batch discharges are required to be monitored regularly.

Batch discharges are required to be monitored at nuclear-powered thermal generating stations for the following group of parameters: pH, specific conductance, ammonia plus ammonium, total Kjeldahl nitrogen, nitrate plus nitrite, TOC, DOC, total phosphorus, TSS, Total metals, hexavalent chromium, sulphide, halogenated volatiles, neutral chlorinated extractables, solvent extractables, PCB's, Iron, and chlorinated dibenzo-p-dioxins and dibenzofurans (at Pickering NGS-A and NGS-B only).

Batch discharges are required to be monitored at the Chalk River Nuclear Laboratories for the following parameters: pH, specific conductance, ammonia plus ammonium, nitrate plus nitrite, DOC, TOC, total phosphorus, TSS, Total metals, hexavalent chromium, mercury, phenolics, non-halogenated volatiles, solvent extractables and iron.

D) ONCE-THROUGH COOLING WATER (OTCW)

With the exception of hydraulic generating stations, certain categories of the generating stations or associated facilities are required to monitor once-through cooling water on a monthly basis for the following core group of parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS) and solvent extractables. The average daily intake and once-through cooling water (outfall) temperature are also required to be monitored in order to determine the temperature rise across the stations.

At certain fossil-fuelled thermal generating stations where periodic chlorination of condenser once-through cooling water is practiced, the total residual oxidants (TRO) shall be monitored at a representative condenser cooling water discharge.

Additionally, priority pollutants and other conventional parameters are required to be monitored in cases where a parameter is above the Ministry MDL in the pre-regulation monitoring data in order to provide an indication of the potential contamination from the contributing process effluent and combined effluent streams.

Hydraulic generating stations are required to monitor once-through cooling water streams for the following parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids and solvent extractables. In addition, PCB's are required to be monitored because of the potential for contamination from station transformers.

E) STORM WATER

The purpose of monitoring storm water is to provide an estimate of the impact of loadings from these discharges on receiving watercourses in relation to process and combined effluent discharges, and to determine whether more intensive monitoring or corrective action may be required in the future.

The majority of the generating stations and associated facilities have no storm water segregation/treatment systems. The storm sewers discharge into receiving watercourses through culverts or drains, or into once-through cooling water streams.

Storm water is required to be monitored for at least one storm event per month or at such a frequency as to provide 12 data points in a year. Failure to monitor an effluent stream in a given month will require two samples to be collected in the next month. At least 2 of the 12 data points must be obtained in the winter or spring months during periods of thaw. This will provide some insight into the potential for contamination from runoff during the winter.

Storm water effluents at all generating stations and associated facilities are required to be monitored for the following group of core parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids and solvent extractables.

Other pollutants are required to be monitored in cases where a parameter is found above the Ministry MDL in the databases available to the Ministry. In cases where there was no data available, best professional judgement was used to reflect the potential for contamination from process areas or from developed areas of the station or facility.

Where similar developed areas of a station are being drained, representative storm water monitoring will be permitted as determined at the Initial Report stage of the program.

F) COAL PILE EFFLUENT

The purpose of monitoring coal pile effluent at the fossil-fuelled thermal generating stations is to provide an estimate of the impact of loadings from these discharges on receiving watercourses in relation to process effluent discharges, and to determine whether more intensive monitoring or corrective action may be required in the future. Coal pile effluent streams have been identified as having a significant potential impact because of the nature of the contaminants.

Coal pile effluent is generally collected and treated. In cases where treatment is available in a coal pile treatment system, the treatment system effluent is required to be monitored as an event discharge. Where treatment is provided by an ash transport system which combines the coal pile effluent with effluent from other processes, monitoring of effluent from the ash transport system will provide an indication of the potential impact of the coal pile effluent. The requirement to monitor before and after treatment reflects the fact that coal pile effluent is largely diluted in both types of treatment systems.

Coal pile effluent is required to be monitored for at least one event per month or at such a frequency as to provide 12 data points in a year. Failure to monitor an effluent stream in a given month will require two samples to be collected in the following month. At least 2 of the 12 data points must be obtained in the winter or spring months during periods of thaw. This will provide some insight into the potential for contamination from runoff during the winter.

Coal pile effluent streams are required to be monitored for the following group of parameters: pH, specific conductance, ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), total metals, iron, hydrides, hexavalent chromium, mercury, phenolics, solvent extractables and neutral chlorinated extractables.

Other pollutants are required to be monitored in cases where a parameter is found above the Ministry MDL in the databases available to the Ministry. In cases where no database is available, best professional judgement was used.

G) WASTE DISPOSAL SITE EFFLUENT

The purpose of monitoring waste disposal site effluent is to provide an estimate of the impact of loadings from these discharges on receiving watercourses in relation to process effluent and combined effluent discharges, and to determine whether more intensive monitoring or corrective action may be required in the future.

The majority of the generating stations and facilities have no waste disposal site effluent collection systems.

Waste disposal site effluent is required to be monitored at the time of discharge, on an event basis. There are no waste disposal sites at any of the fossil-fuelled or nuclear-powered thermal generating stations, or hydraulic generating stations to be monitored. Waste disposal site effluents at facilities associated with nuclear power generation are required to be monitored for the following parameters: pH, specific conductance, ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), phenolics and solvent extractables.

Other pollutants are required to be monitored in cases where a parameter is found above the Ministry MDL in the databases available to the Ministry. In cases where there was no data available, best professional judgement was used.

H) POTENTIALLY CONTAMINATED BUILDING EFFLUENT AND EQUIPMENT CLEANING EFFLUENT

Potentially contaminated building effluents are effluents originating from floor drains, equipment drains and trenches which discharge into sumps. Equipment cleaning effluents are generated infrequently from the cleaning of boilers, air preheaters and heat exchangers. These effluents are generally not collected in a collection system, but are discharged directly to once-through cooling water, yard drains or lagoons.

The purpose of monitoring these effluents is to provide an estimate of the impact of loadings from these discharges on receiving watercourses in relation to process effluent discharges, and to determine whether more intensive monitoring or corrective action or possible limits are required.

Potentially contaminated building effluent and equipment cleaning effluent at all generating stations and associated facilities are required to monitor for the following core parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), total phosphorus, total suspended solids (TSS), copper, zinc, iron and solvent extractables.

Other pollutants are required to be monitored in cases where a parameter is found above the Ministry MDL in the databases available to the Ministry. In cases where there was no data available, best professional judgement was used.

I) EMERGENCY OVERFLOWS

Emergency overflows are process effluents which by-pass their intended destination because of unforeseen emergencies, or equipment outages, and are directed to a surface watercourse without any treatment.

The purpose of monitoring emergency overflows is to estimate the potential impact on the environment and to record the number of such occurrences for possible remedial action.

Emergency overflow effluent streams are required to be monitored for the following core group of parameters: pH, specific conductance, dissolved organic carbon (DOC), total organic carbon (TOC), ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, total phosphorus, total suspended solids (TSS), copper, zinc, iron and solvent extractables.

The specific rules for all effluent streams are summarized in Table 7 of Appendix 2.

XIV CHARACTERIZATION

Characterization is the quantitative determination of a number of conventional pollutants and all of the pollutants on the EPG Sector List using the analytical techniques specified in the General Effluent Monitoring Regulation. All of the generating stations in the EPG Sector are required to perform quarterly characterization analyses on each of their process effluent, batch discharge effluent, combined effluent, boiler blowdown effluent, event discharge effluent and batch discharge effluent streams. The characterization requirements include 15 conventional pollutants, 136 EPG Sector List pollutants and 3 sector-specific pollutants, all of which are shown in Table 3 of Appendix 2. In addition, temperature and temperature rise of once-through cooling water effluent in certain categories shall be monitored.

The primary purpose of characterization is to establish the presence or absence of pollutants in all of the EPG Sector process effluent, combined effluent, boiler blowdown effluent, batch discharge effluent and event discharge effluent streams. Characterization data and flow information may also be used to provide estimates of annual loadings of parameters for comparison among the MISA industrial sectors.

Characterization data may also indicate if a change of monitoring frequency may be required (in the future) for a given parameter. This may lead to more or less intensive monitoring of a given parameter from the EPG Sector List.

In order to determine the appropriate frequency for characterization monitoring, use was made of statistical analyses. The pre-regulation monitoring program produced up to three rounds of characterization data. The Ministry's inspection characterizations - one during the pre-regulation monitoring program period and two to be done within the regulation period will provide additional characterization data. Thus, a database of up to six characterizations will exist to augment the requirements under the monitoring regulation.

From the statistical data shown in Table 9 of Appendix 2, it is clear that for a given parameter that is present 50% of the time or greater in an effluent, the probability of finding the contaminant is very high whether twelve samples (99.9% probability) or four samples (93.7% probability) are taken.

The probability of detecting less frequently occurring parameters that are present 1% of the time is less than 12% whether two, seven, eleven, or twelve characterizations are carried out (see Table 9 in Appendix 2).

Parameters in analytical test group 24 (chlorinated dibenzo-p-dioxins and dibenzofurans) will also be required for quarterly characterization.

The characterization requirements in the monitoring regulation are augmented by open characterization analyses which are required quarterly on all of the process effluent, combined effluent, boiler blowdown effluent, event discharge effluent and batch discharge effluent streams.

XV OPEN CHARACTERIZATION

Open characterization will provide tentative identification of both organic compounds and inorganic elements that are not currently on the EPG Sector List. Use is made of gas chromatography/mass spectrometry (GC/MS) and inductively coupled plasma procedures or atomic emission spectroscopy to obtain the data.

Open characterization will be used to identify parameters in process effluent, combined effluent, boiler blowdown effluent, event discharge effluent and batch discharge effluent streams and will be used to provide candidate compounds for hazard assessment for potential addition to EMPPL. In this way, open characterization data, when combined with characterization data, will provide a more relevant parameter list for future monitoring and control.

The relatively modest incremental cost of running open characterization analyses in conjunction with characterization analyses, and the large return in terms of data produced, is a strong justification for requiring open characterization in the monitoring regulation.

The detection limit achievable for open characterization of organic compounds will depend upon the sample size, concentration factor, efficiency of extraction from the original matrix, GC/MS conditions, overall complexity of the sample, degree of chromatographic resolution from other co-extractives and the mass spectral characteristics of specific compounds. In some cases, compounds extracted from a 1.0 L sample may be identifiable at concentrations as low as 1 - 5 parts per billion (ppb). In other cases, identification may require concentrations of components to be 50 ppb or greater. In the majority of the cases, 10 - 20 ppb concentrations should be detectable.

XVI TOXICITY TESTING

Biological testing of effluents is required along with chemical testing in order to provide an indication of the interaction that may occur between the various components of an effluent stream and of the potential impact on the receiving watercourse.

Two different types of toxicity tests are required to be conducted: a 96-hour Rainbow Trout acute lethality toxicity test (fish toxicity test) and a Daphnia magna acute lethality toxicity test. These tests are full series dilution tests and are conducted according to protocols available in documents from the Ministry (11, 12).

The Ministry has reviewed results from fish toxicity and Daphnia magna acute lethality toxicity tests conducted on the same effluent samples. It was concluded that rainbow trout and Daphnia magna differ in their sensitivity to some effluents and therefore the use of both tests will provide valuable information on the toxicity of the effluents.

Both toxicity tests are required to be performed on all process effluent, combined effluent, boiler blowdown effluent, event discharge effluent and batch discharge effluent streams at a station on a monthly basis. For all effluent streams other than boiler blowdown effluent, for fish toxicity tests only, in the event that 3 consecutive monthly tests result in mortality for no more than two out of ten fish, the subsequent monthly tests may be performed on undiluted effluent on a pass/fail basis. If more than two fish die in any pass/fail test, full dilution series tests are again required. The allowance to use a pass/fail test again is permitted where a further three tests result in mortality for no more than two out of ten fish. The Daphnia magna acute lethality toxicity test must be conducted monthly using the full series dilutions at all times.

Quarterly toxicity testing is required for all once-through cooling water streams. The large dilution of process effluents with cooling water may mask any contaminants of concern. Therefore, effluent toxicity testing may be the most appropriate means to assess the impact of these effluent streams.

Process effluent, combined effluent, event discharge effluent, boiler blowdown effluent and batch discharge effluent streams will be tested without pH adjustment. While the undiluted effluent may be predictably lethal primarily due to pH alone, the series of dilutions required under the tests will isolate the pH effect and allow the calculation of an LC50 value.

XVII QUALITY ASSURANCE / QUALITY CONTROL

Quality assurance and quality control (QA/QC) encompasses all of the procedures undertaken to ensure that data produced are generated within known probability limits of accuracy and precision.

Quality assurance is the overall verification program which provides producers and users of data the assurance that predefined standards of quality at predetermined levels of confidence are met. Quality assurance is comprised of two elements: quality control and quality assessment.

Quality control is the overall system of guidelines, procedures and practices which are designed to regulate and control the quality of products or services with regards to previously established performance criteria and standards.

Quality assessment is the overall system of activities which ensure that quality control is being performed effectively. This is carried out immediately following quality control and involves evaluation and auditing of quality control data to ensure the success of the quality control program.

QA/QC is one of the most important aspects of the MISA monitoring regulations. The QA/QC program includes many small but essential activities ranging from: proving the cleanliness of sample bottles and using proper sampling equipment, containers and preservatives; to instrument calibration, validation of authenticity of standards, inclusion of blanks, spikes and controls in analytical runs; to documenting performance and participation in external round-robins; and, to defining the proper method for reporting a final data number. Omission of one of these activities can lead to unreliable data resulting in improper conclusions and perhaps inappropriate actions.

The financial stakes riding on the monitoring regulation data are too high to compromise the generated data with inadequate QA/QC. The QA/QC program therefore requires both analytical QA/QC and field QA/QC. The analytical QA/QC is to be undertaken by the laboratories performing the analyses for all parameters to be monitored under the regulation. The field QA/QC is required on one process effluent or combined effluent stream at each station at monthly and quarterly frequencies for each of the parameters to be monitored in that stream. Each of the QA/QC samples will provide different information on the quality of the samples and analytical procedures used.

XVIII FLOW MEASUREMENT

Accurate flow measurements are essential for the determination of contaminant loadings to surface watercourses. As process effluent, event discharge effluent and batch discharge effluent streams have the greatest potential for impacting the environment, and as such have the most stringent monitoring requirements, flow measurement requirements for process effluent event discharge effluent and batch discharge streams are the most stringent. An accuracy of $\pm 7\%$ is required for flow measurement of all process effluent event discharge effluent and batch discharge effluent streams under the monitoring regulation. The process event discharge effluent or batch discharge flow measurement accuracy requirement is broken down to $\pm 5\%$ of the actual flow for the primary flow measuring device and $\pm 2\%$ of full scale flow for the secondary flow measuring device. As event discharge effluent do not require continuous flow measurement, the flow may be estimated within above accuracies.

The accuracy of the flow measuring system will be ±9% of the actual flow at one half of the design flow and ±13% of the actual flow at one quarter of the design flow. Therefore, the flow of process effluent streams will be measured from ±7% or ±13% of the actual flow for the design range of the measuring system.

An existing flow measuring system installed on a process effluent stream should meet the above requirements unless flow calibration indicates that the device is not capable of achieving the required flow measurement accuracy. In these cases, an accuracy of ±15% of the actual flow is permitted.

Since boiler blowdown is considered to be a process effluent stream for the purposes of the General Regulation, a flow measurement accuracy of ±7% is also required. However, two phase flow in discharge lines from the boiler may result in inaccurate flow measurements. Therefore, an alternate flow measurement method based on demineralized water makeup and/or calculation from makeup tank level difference is acceptable.

Since batch discharges from the RLWMS Tanks are considered to be process effluent for the purposes of the General Regulation, a flow measurement accuracy of ±7% is required. Since flow can be calculated accurately from the geometry of the tank and level difference of effluent discharged, such an approach is acceptable.

All other effluent streams, except storm water and coal pile effluent, including combined effluent, and once-through cooling water require a flow measurement accuracy of ±20% of the actual flow, which allows for the use of flow estimation using water balance calculations and pumping rates.

Method of measuring or estimating storm water and coal pile effluent including accuracy of the method utilized to be specified by the discharger in the initial report.

XIX ECONOMIC IMPLICATIONS OF THE MONITORING REGULATION

The physical and economic dimensions of the Electric Power Generation Sector have been documented in the report, "Economic and Financial Profile of the Ontario Electric Power Generation Industry", September 1989 (13). This report concludes that the financial health of Ontario Hydro, which operates virtually all of the electric power generation facilities in Ontario, is generally strong. The only concern that may be derived from the agency's financial statements is the very large, long term debt which Ontario Hydro has incurred to build nuclear power plants. Much of this debt is with foreign lenders as well. Medium and long term prospects for Ontario Hydro depend on the performance of the economy in general.

On the other hand, Atomic Energy of Canada Ltd. (AECL) has experienced decreased total revenues and an increase in after-tax profit from 1983 through 1987. While, AECL's financial position remains profitable, the Corporation is presently undergoing restructuring which involves "privatization" of some of its operations.

A second report, entitled "Monitoring Cost Estimates and their Implications for Direct Dischargers in the Electrical Generation Sector.", December 1989 (14), will present estimates and implications of the incremental costs to Ontario Hydro and AECL because of the monitoring regulation requirements.

Ministry staff have generated estimates of routine analysis, characterization and toxicity test costs based on commercial laboratory analysis prices in order to be consistent and comparable with other firms and sectors. Since Ontario Hydro will be carrying out many of the tests themselves, the actual costs for the analyses may be somewhat lower.

The cost estimates are based on the site-specific monitoring schedules for the 24 stations and associated facilities, of which 21 are owned by Ontario Hydro and three facilities are owned by AECL, that are subject to the Regulation.

Because of uncertainties and contingencies, both range and point estimates of costs have been produced. A point estimate is a single-valued estimate of the relevant costs based on specific assumptions and computational procedures. A factor of $\pm$ 15% has been used to estimate the potential range of costs.

Capital and operating cost estimates have been generated for the following monitoring functions:

- Sampling and Sample Transportation
- Flow Measurement
- Chemical Analysis
    - Routine
    - Characterization
- Toxicity Testing
- Reporting and Supervision

For Ontario Hydro, tentative point estimates of the total incremental monitoring costs are summarized in Table 1, below. These estimates are subject to further review and revision as additional information is forthcoming.

Table 1

Monitoring Function	Operating & Maintenance ($, million)	Capital
Sampling	1.8	2.8
Sample Transportation	0.2	---
Flow Measurement	0.2	1.2
Analytical		
Routine	3.9*	1.5
Characterization	0.9*	---
Toxicity Testing	0.5*	---
Reporting	0.3	0.1
Supervision	0.2**	---
TOTAL	**8.0**	**5.6**

* These costs reflect commercial laboratory rates.
**Other sectors have not identified these costs separately

Using an uncertainty and contingency factor of ± 15%, the total operating costs to Ontario Hydro could range from $ 6.8 million to $ 9.2 million while capital expenditure could vary from $ 4.8 million to $ 6.4 million. Using the point estimates shown in Table 1, the average total operating and capital cost per station is about $ 570 000.

Point estimates of the monitoring costs for AECL are summarized in Table 2., below.

Table 2

Monitoring Function	Operating & Maintenance ($)	Capital ($)
Sampling	171 000	250 000
Sample Transportation	8 000	-------
Flow Measurement	5 000	120 000
Analytical		
Routine	293 000*	-------
Characterization	47 000*	-------
Toxicity Testing	24 000*	-------
Reporting	65 000	60 000
Supervision	30 000**	
TOTAL	**643 000**	**430 000**

* These costs reflect commercial laboratory rates.
**Other sectors have not identified these costs separately

Using a range of ± 15%, total incremental capital and operating costs could vary from $ 935 000 to $ 1 265 000. These estimates will also likely be revised somewhat.

Total incremental monitoring costs for the sector are expected to range from $ 12.4 million to 16.8 million. The average point estimate of total costs per station or associated facility will range from $ 477 000 to $ 646 000.

The estimated capital costs for the sector will likely range from $ 5.2 million to $ 7.0 million. Ontario Hydro accounts for over 93% of the total estimated capital costs. Operating costs are estimated to range from $ 7.2 million to $ 9.8 million.

Ontario Hydro will need to raise additional revenue to cover the monitoring costs. Depending on whether or not total capital costs are depreciated, Ontario Hydro will require between $ 10 million and $ 14 million in extra revenue during the 12 month monitoring period of the Regulation. Assuming that Ontario Hydro is able to pass on total incremental operating costs and a capitalized portion of the capital cost as higher electricity rates, actual electricity rates could increase by as much as 0.2%. Ontario Hydro has not identified these costs as a problem.

Based on previous financial results, the incremental costs of monitoring are not expected to have any adverse financial effects on Ontario Hydro or AECL.

REFERENCES

(1) Statistics Canada, Standard Industrial Classification - 1980, (Reprinted 1985).

(2) Ontario Ministry of the Environment, "1987 Report on the Industrial Direct Discharges in Ontario", October 1988.

(3) Ontario Ministry of the Environment, "Water Management: Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment", November 1978 (Revised May 1984).

(4) Environment Canada, Environmental Codes of Practice for the Steam Electric Power Generation - Design Phase - Report EPS 1/PG/1, March 1985.

(5) Environment Canada, Appendices - Environmental Codes of Practice for Steam Electric Power Generation - Design Phase - Report EPS 1/PG/1A.

(6) Ontario Ministry of the Environment, "A Policy and Program Statement of the Government of Ontario on Controlling Municipal and Industrial Discharges into Surface Waters", June 1986.

(7) U.S. Environmental Protection Agency, "Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category", Washington D.C., November 1982 (EPA -440/1-82/029)

(8) Ontario Ministry of the Environment, "The Effluent Monitoring Priority Pollutants List (1987)", July 1988.

(9) Ontario Ministry of the Environment, "The Effluent Monitoring Priority Pollutants List - 1988 Update", March 1989.

(10) Ontario Ministry of the Environment, "Preliminary Report - St. Clair River MISA Pilot Site Investigation", Volume 1: Part I, November 1987.

(11) Ontario Ministry of the Environment, "Protocol to Determine the Acute Lethality of Liquid Effluents to Fish", July 1983.

(12) Ontario Ministry of the Environment, "Daphnia magna Acute Lethality Toxicity Test", April 1988.

(13) Ontario Ministry of the Environment, "Economic and Financial Profile of the Ontario Electric Power Generation Industry", September 1989.

(14) Ontario Ministry of the Environment, "Monitoring Cost Estimates and their Implications for Direct Dischargers in the Electrical Generation Sector.", December 1989.

APPENDIX 1

ELECTRIC POWER GENERATION SECTOR

SITE DATA

Individual site descriptions of Electric Power Generation Sector companies are provided in this section. Information such as the site location, type, generating capacity, water flowrates, number of employees, and effluent treatment are provided.

A legend of the abbreviations used in this section to identify various effluent streams is presented below:

Legend:

BBE	- boiler blowdown effluent
BDE	- batch discharge effluent
CE	- combined effluent
CPE	- coal pile effluent
ECE	- equipment cleaning effluent
EDE	- event discharge effluent
EO	- emergency overflow effluent
OTCW	- once-through cooling water
P	- process effluent
PCBE	- potentially-contaminated building effluent
SW	- storm water
WD	- waste disposal site effluent

NOTE: The streams identified in the following descriptions are those which are known to exist at the various sites, and may not always correspond to the streams to be monitored in the EPG Regulation.

Hydraulic Generating Stations:

Site:	**Aguasabon GS**
Location:	Aguasabon River, near Terrace Bay
History:	built in 1948
Type:	2 units, large vertical
Capacity:	44 MW
Employees:	none (remote operation)

Wastewater Treatment:

None

OTCW:	bearing cooling water
PCBE:	powerhouse sumps
SW:	unit transformer drainage switchyard drainage

Site:	**Arnprior GS**
Location:	Madawaska River, near Arnprior
History:	completed in 1976
Type:	2 units, large vertical
Capacity:	80 MW
Employees:	none (remote operation)

Wastewater Treatment:

None

OTCW:	bearing cooling water
PCBE:	powerhouse sumps
SW:	unit transformer drainage switchyard drainage

Site:	**Sir Adam Beck No. 2 GS**
Location:	Niagara River, south of Queenston
History:	first unit placed in service 1954, last unit in 1958
Type:	16 units, large vertical
Capacity:	1,328 MW
Employees:	80

Wastewater Treatment:

None

OTCW:	bearing cooling water transformer cooling water
PCBE:	powerhouse sumps
SW:	unit transformer drainage switchyard drainage

Site:	**Decew Falls NF 23 GS**
Location:	Old Welland Ship Canal, in St. Catharines
History:	completed in 1943
Type:	2 units, large vertical
Capacity:	144 MW
Employees:	none (remote operation)

Wastewater Treatment:

None

OTCW:	bearing cooling water transformer cooling water
PCBE:	powerhouse sumps
SW:	unit transformer drainage switchyard drainage

Site:	**Pine Portage GS**
Location:	Nipigon River, at outlet of Lake Nipigon
History:	first unit in service 1950, last unit in 1954
Type:	4 units, large vertical
Capacity:	132 MW
Employees:	none (remote operation)

Wastewater Treatment:

<u>None</u>

OTCW:	bearing cooling water
PCBE:	powerhouse sumps
SW:	unit transformer / switchyard drainage

Site:	**Silver Falls GS**
Location:	Kamanistikwia River, Thunder Bay
History:	completed in 1959
Type:	1 unit, large vertical
Capacity:	48 MW
Employees:	none (remote operation)

Wastewater Treatment:

<u>None</u>

OTCW:	bearing cooling water
PCBE:	powerhouse sumps
SW:	unit transformer drainage switchyard drainage

Fossil-Fuelled Thermal Generating Stations:

Site:	**Atikokan TGS**
Location:	between Moose Lake and Snow Lake, 16 km north of Atikokan
History:	placed in service 1985
Type:	1 unit, coal (1986 tonnage) western Canadian lignite - 250,000t
Capacity:	200 MW
Flowrate:	condenser cooling water 5.3×10^5 m^3/d avg. service water 6.2×10^4 m^3/d avg.
Employees:	55

Wastewater Treatment:

None

BBE:	boiler blowdown
CPE:	coal pile effluent
EO:	ash transport water system (ATWS) emergency overflow - to clean floor drains
OTCW:	condenser cooling water (CCW)
P:	neutralizing sump effluent - to clean floor drains
PCBE:	clean floor drains, crusher and dumper house sumps, CCW pumphouse drains
SW:	yard drains, unit transformer area drains roof drains - to clean floor drains

Primary

ECE:	air preheater washes, boiler internal washdowns - to ATWS boiler acid cleaning wastes - neutralization
P:	ATWS (furnace ash, pyrites) - clarification / filtration (in treatment plant) oil contaminated floor drains, transformer fire pits - oily water separation water treatment plant wastes - neutralization sanitary sewage - primary lagoons
PCBE:	solids contaminated floor drains - to ATWS
SW:	ash storage area - to solids contaminated floor drains

Secondary

n/a

Site: **Lakeview TGS**

Location: Lake Ontario, in Mississauga (west of Toronto)

History: first unit commissioned in 1961, last unit in 1968

Type: 8 units, coal (1986 tonnage)
medium sulphur U.S. bituminous - 787,000t

Capacity: 2,400 MW

Flowrate: condenser cooling water, 2.6×10^6 m^3/d avg.
service water, 3.7×10^5 m^3/d max.

Employees: 500

Wastewater Treatment:

None

BBE:	boiler blowdown
EO:	coal pile effluent emergency overflow - to intake channel
	ash transport water system (ATWS) emergency overflow - to outfall
OTCW:	condenser cooling water (CCW)
PCBE:	powerhouse (boilerhouse) floor drains - to CCW
SW:	unit transformer area drains - to north yard drains
	north and south yard drains, switchyard drainage

Primary

ECE:	boiler acid wash effluent - to coal pile treatment system
	air preheater wash effluent - to ATWS
EDE:	coal pile / ash storage site effluent - clarification / neutralization (in coal pile drainage pond)
P:	ATWS (furnace ash, pyrites) - clarification / filtration (in ash settling pond and filter units)
	water treatment plant wastes - neutralization
	neutralizing sump effluent - to ATWS
	powerhouse (turbine hall) floor drains, condenser pit sump effluent - oily water separation
	CCW pumphouse floor drains - oily water separation
SW:	south yard drains units 5 & 6 (flyash silo area) - to ATWS

Secondary

n/a	(sanitary sewage to municipal system)

Site:	**Lambton TGS**
Location:	St. Clair River, south of Courtright
History:	first unit put in service 1969, last unit in 1970
Type:	4 units, coal (1986 tonnage) regular sulphur U.S. bituminous - 2.2×10^6t low sulphur U.S. bituminous - 315,000t
Capacity:	2,000 MW
Flowrate:	condenser cooling water, 2.65×10^6 m^3/d avg. service water, 3.5×10^5 m^3/d avg.
Employees:	350

Wastewater Treatment:

None

BBE:	boiler blowdown
CPE:	coal pile effluent - to Bowman's Pit
EO:	ash transport water system (ATWS) emergency overflow - to south yard drains
OTCW:	condenser cooling water (CCW) service water open cooling system discharges - to powerhouse floor drains main transformer cooling water - to yard drains
PCBE:	powerhouse floor drains (boilerhouse and turbine hall) - north drains to river, south drains to CCW CCW pumphouse floor drains
SW:	north and south yard drains roof drains, unit transformer area drains, switchyard drainage - to yard drains

Primary

ECE:	boiler acid washes - neutralization (in acid pond) air preheater washes, sootblowing - to ATWS
EDE:	coal pile effluent from Bowman's Pit - clarification / neutralization (in Lake Lambton)
P:	ATWS (furnace ash, pyrites, economizer ash) - clarification / filtration water treatment plant wastes - neutralization neutralizing sump wastes - to ATWS sanitary sewage - primary lagoons
SW:	ash storage site surface runoff - clarification / neutralization (in Lake Lambton)

Secondary

n/a

Site: **Lennox TGS**

Location: Lake Ontario, southwest of Kingston

History: first unit commissioned in 1976, last unit in 1977
units 3,4 mothballed in 1980, units 1,2 in 1982
units 1,2 recommissioned in 1987, unit 4 in 1988
unit 3 to be recommissioned in 1989

Type: 4 units, oil (low-sulphur residual or crude)

Capacity: 2,240 MW

Flowrate: condenser cooling water, 3×10^5 m^3/d per unit, max.
service water, 4.9×10^4 m^3/d max.

Employees: 55

Wastewater Treatment:

None

BBE: boiler blowdown
OTCW: condenser cooling water (CCW)
main transformer cooling water - to yard drains
PCBE: powerhouse floor drains and utility drains - to CCW via non-contaminated sumps
CCW pumphouse drains - to CCW
SW: east and west yard drains
switchyard drainage - to east yard drain
precipitator roof drains - to yard drains

Primary

ECE: boiler acid washes and chemical cleaning - neutralization (in acid pond)
unit preheater wash effluent - neutralization / clarification (2 lagoons)
P: powerhouse oil contaminated sumps, tank farm contaminated sumps - oily water separation
water treatment plant wastes - neutralization / clarification
neutralizing sump wastes - discharge to east yard drain
sanitary sewage - 2 lagoons
SW: tank farm and yard drainage (potentially oily water) - oily water separation

Secondary

P: sanitary sewage - secondary lagoon

Site:	**Nanticoke TGS**
Location:	Lake Erie, east of Port Dover
History:	station completed in 1978
Type:	8 units, coal (blended, 1986 tonnage) western Canadian bituminous - 1.66×10^6t regular sulphur U.S. bituminous - 3.04×10^6t
Capacity:	4,096 MW
Flowrate:	condenser cooling water, 7.75×10^6 m^3/d max. service water, 1.03×10^6 m^3/d max.
Employees:	550

Wastewater Treatment:

<u>None</u>

BBE:	boiler blowdown
EO:	overflows from boiler and air heater cleaning - to CCW
OTCW:	condenser cooling water (CCW) equipment cooling water - to floor drains
P:	ash transport water system (ATWS) line drainage - to north yard drains
PCBE:	powerhouse floor drains (boilerhouse and turbine hall) - to CCW via service water sump CCW pumphouse floor drains - to forebay
SW:	yard drains, north yard drains - to lake

<u>Primary</u>

CPE:	coal pile effluent - to ash lagoon via sump
ECE:	air preheater and boiler wash wastes, boiler acid wash waste - to ash lagoon
P:	water treatment plant wastes - neutralization neutralizing sump wastes - to ash lagoon ATWS (furnace ash, pyrites and flyash) - sedimentation / neutralization / precipitation / adsorption / evaporation (in ash lagoon) sanitary sewage - lagoon sewage lagoon effluent - to coal pile effluent sump
WD:	ash storage area effluent and leachate - to ash lagoon

<u>Secondary</u>

n/a

Site:	**Thunder Bay TGS**
Location:	Lake Superior and Mission River, in Thunder Bay
History:	station completed in 1963, unit 1 mothballed immediately unit 1 placed in service in 1966 construction started on units 2 and 3 in 1975 unit 2 put in service in 1981, unit 3 in 1982 unit 1 mothballed in 1984
Type:	2 units, coal (1986 tonnage) western Canadian lignite or bituminous - 844,000t
Capacity:	300 MW (one 100 MW unit mothballed)
Flowrate:	condenser cooling water, 1.1×10^6 m^3/d max. service water, 7.5×10^5 m^3/d max.
Employees:	350

Wastewater Treatment:

None

BBE:	boiler blowdown - to intake channel
EO:	ash transport water system (ATWS) emergency overflow
OTCW:	condenser cooling water (CCW)
P:	neutralizing sump wastes, brine saturator overflow
PCBE:	stores / maintenance area drains, roof drains / condenser pit sumps, trash rack effluent
SW:	clean yard drains - to intake channel

Primary

CPE:	coal pile effluent - to ATWS via pond
ECE:	air preheater wash effluent, boiler internal washdowns, boiler acid cleaning wastes - to ATWS
P	water treatment plant wastes - neutralization ATWS (furnace ash and pyrites) - clarification / filtration flyash removal system (blowdown) effluent - to ATWS
PCBE:	boilerhouse drains, crusher house drains - to ATWS turbine hall floor drains, transformer fire pit drainage - oily water separation equipment garage drains, maintenance garage drains, refuelling area drains - oily water separation combustion turbine unit drains - oil trap
WD:	ash disposal site effluent - to ATWS

Secondary

P:	sanitary sewage - conventional activated sludge plant

Mothballed Thermal Generating Stations:

Site:	**R.L. Hearn TGS**	
Location:	Lake Ontario, in Toronto	
History:	first coal-burning unit placed in service in 1951, last unit in 1961 converted to natural gas from Sept. 1971 to Mar. 1972 station mothballed in 1983 units 6 & 7 presently operated as synchronous condensers	
Type:	8 units,	4 units (200 MW each) - coal (U.S. bituminous) or natural gas 4 units (100 MW each) - natural gas
Capacity:	1,200 MW (mothballed)	
Flowrate:	condenser cooling water, 5.44×10^5 m^3/d service water, 5,440 m^3/d	
Employees:	6	

Wastewater Treatment:

None

OTCW:	condenser cooling water (CCW) equipment cooling water - to floor drains
PCBE:	powerhouse floor drains - to discharge channel via sumps CCW pumphouse drains, trash rack effluent - to ship turning channel
SW:	switchyard drainage, yard drains, roof drains, reclaimed coal storage area, catch basins 6, 7 & 8

Primary

n/a

Secondary

n/a (sanitary sewage to municipal system)

Site: **J.C. Kelth TGS**

Location: Detroit River, in Windsor

History: first unit placed in service in 1952, last unit in 1953
station mothballed in 1984
switchyard still operational

Type: 4 units, coal (U.S. bituminous)

Capacity: 264 MW

Flowrate: condenser cooling water n/a
service water n/a

Employees: none

Wastewater Treatment:

<u>None</u>

SW: switchyard drainage
former coal storage area, yard drainage - to river via ash lagoon and weirs (primary and secondary)

<u>Primary</u>

n/a

<u>Secondary</u>

n/a

Nuclear-Powered Thermal Generating Stations:

Site:	**Bruce NGS-A/B**	
Location:	Lake Huron, at Tiverton	
History:	NGS-A, first unit put in service 1977, last unit in 1979 NGS-B, first unit put in service 1984, last in 1987	
Type:	4 units each, uranium oxide fuelled (natural)	
Capacity:	NGS-A, 3,056 MW NGS-B, 3,345 MW	
Flowrate:	NGS-A,	condenser cooling water, 13.4×10^6 m^3/d max. service water, 1.56×10^6 m^3/d max.
	NGS-B,	condenser cooling water, 17.2×10^6 m^3/d max. service water, 1.97×10^6 m^3/d max.
Employees:	NGS-A, 780 / NGS-B, 730	

Wastewater Treatment:

None

BBE:	boiler blowdown
BDE:	Radioactive Liquid Waste Management System (RLWMS) low activity effluents - to lake
OTCW:	condenser cooling water (CCW)
P:	NGS-A filter and carbon filter backwash - to forebay
PCBE:	inactive drainage (building, utility drains) - to CCW duct active drainage (building, utility drains) - to RLWMS Emergency Coolant Injection (ECI) System Accumulator Building effluent - to yard drains
SW:	yard drains, switchyard drains, inactive drainage (roof drains)

Primary

BDE:	RLWMS high activity effluents - filtration
EDE:	oily water from sump - to RLWMS (after being drummed, transferred, and allowed to separate in holding tanks)
P:	water treatment plant wastes - neutralization

Secondary

n/a	(sanitary sewage to BNPD Sewage Processing Plant (SPP))

Site:	**Darlington NGS**
Location:	Lake Ontario, at Bowmanville
History:	1st unit not yet placed in service station expected to be completed in 1992
Type:	4 units, uranium oxide fuel (natural)
Capacity:	(future) 3,524 MW
Flowrate:	condenser cooling water, 10.9×10^6 m^3/d max. (future) service water, 2.2×10^6 m^3/d max. (future)
Employees:	(future) ~850

Wastewater Treatment:

<u>None</u>

BBE:	boiler blowdown
BDE:	Radioactive Liquid Waste Management System (RLWMS) low activity effluents - to lake
OTCW:	condenser cooling water (CCW)
PCBE:	inactive drainage (building, utility drains) - to CCW duct active drainage (building, utility drains) - to RLWMS active effluents from Tritium Removal Facility - to RLWMS Emergency Coolant Injection (ECI) System effluent - to RLWMS CCW pumphouse (screenhouse) floor drains, water treatment building floor drains - to forebay
SW:	yard drains, switchyard drains, inactive drainage (roof drains)

<u>Primary</u>

BDE:	RLWMS high activity effluents - filtration
EDE:	potentially oily sumps (building, switchyard) - oily water separation (in holding tanks)
P:	water treatment plant wastes - neutralization sanitary sewage - equalization / sedimentation / chlorination

<u>Secondary</u>

P:	sanitary sewage - rotating biological contactor

Site:	**Pickering NGS-A/B**
Location:	Lake Ontario, at Pickering
History:	NGS-A, 1st unit placed in service in 1971, 4th unit in service 1973 NGS-B, 1st unit in service in 1983, 4th unit in 1985
Type:	4 units each, uranium oxide fuel (natural)
Capacity:	NGS-A 2,060 MW NGS-B 2,064 MW

Flowrate:	NGS-A,	condenser cooling water, $9.3 \times 10^6\ m^3$/d max. service water, $1.3 \times 10^6\ m^3$/d max.
	NGS-B,	condenser cooling water, $10.0 \times 10^6\ m^3$/d max. service water, $1.3 \times 10^6\ m^3$/d max.

Employees: 1,635

Wastewater Treatment:

<u>None</u>

BBE:	boiler blowdown
BDE:	Radioactive Liquid Waste Management System (RLWMS) low activity effluents - to lake
OTCW:	condenser cooling water (CCW) auxiliary irradiated fuel bay (AIFB) service water - to yard drains Sulzer A/B (heavy water upgrading plants) service water - to yard drains Upgrading Plant Pickering (UPP) service water - to NGS-A outfall
PCBE:	inactive drainage (building, utility drains) - to CCW duct Emergency Coolant Injection (ECI) System (tunnel only) - to yard drains active drainage (building, utility drains, laundry) - to RLWMS
SW:	yard drains, switchyard drains, inactive drainage (roof drains)

<u>Primary</u>

BDE:	RLWMS high activity effluent - filtration
P:	water treatment plant wastes - neutralization

<u>Secondary</u>

n/a	(sanitary sewage to municipal system)

Associated Facilities:

Site: **Bruce Heavy Water Plants**

Location: Lake Huron, at Tiverton

History:
BHWP "A" put in service in 1973, shut down in 1984
BHWP "B" put in service 1981
BHWP "C" construction cancelled in 1976
BHWP "D" uncommissioned and mothballed in 1979
BHWP Common Services (CS)

Type: separation with H_2S (Water / H_2S Dual-Temperature Process), countercurrent contact
vacuum distillation

Capacity: ~800 tonnes/y

Flowrate: process water, 1.7×10^6 m^3/d avg.
cooling water, 1.2×10^6 m^3/d max.

Employees: 450

Wastewater Treatment:

None

OTCW: BHWP "B" and CS cooling water (CW) systems - to lake
bearing water for pumps - to forebay

PCBE: noncontaminated drainage (including: degasser hotwell drainage, condensate blowdown drum, filter backwash water) - to lake via discharge channel

P: process effluent (from enriching unit effluent strippers) - to lake (or to lake via process lagoon)

SW: BHWP "A" - to floodplain / BNPD-S combined outfall / Douglas Point outfall

Primary

EDE: process drain intermittent stripper effluent, process effluent (from enriching unit effluent strippers) - agitation / aeration / degassing (process lagoon)

SW: BHWP "B", "C", "D" and part of CS yard drainage - sedimentation (in surface drainage lagoon)

Secondary

n/a (domestic water/sanitary sewage - to BNPD Sewage Processing Plant)

Site: **Bruce Nuclear Power Development-Services (BNPD-S)**

Location: Lake Huron, at Tiverton

History: some facilities originally for support of Heavy Water Plants

Type: Associated Services for Bruce Nuclear Power Development complex

1) steam supply (Bruce Bulk Steam System - BBSS), comprised of:

   1) Condensate Plant;
   2) Steam Transformer Plant "A" (STP-A);
   3) Steam Transformer Plant "O" (STP-O); and,
   4) Bruce Steam Plant (BSP)

2) radioactive waste storage (Bruce Nuclear Waste Storage Site)

3) sewage treatment plant (BNPD Sewage Processing Plant - SPP)

Employees: 1,000

Wastewater Treatment:

None

BBE: blowdown (BSP, Condensate Plant) - to Douglas Point outfall
blowdown (STP-A) - to Bruce NGS-A intake channel

P: Neutralization Tank discharge - to Douglas Point outfall
water treatment plant (WTP) filter backwash effluents - to Douglas Point outfall

PCBE: building floor drains, equipment drains, sample drains, service water drains, pressure relief valve drains (reboiler, steam transformer)
Waste Volume Reduction Facility (WVRF) surface/ subsurface drainage - to lake
oil contaminated drains/sumps - (oil traps)
standby power facility fuel oil storage tank dyke sumps, fuel unloading area catch basins - (oil traps)

SW: yard drains, transformer area drains, roof drains - to site drainage system

WD: Radioactive Solid Waste Storage Site (surface and subsurface drainage) - to site drainage system
BNPD landfill site - runoff to site drainage system

Primary

ECE:	BSP air preheater wash effluents, boiler cleaning acid wastes - neutralization / sedimentation (in chemical waste pond)
P:	Condensate Plant WTP regeneration effluent - neutralization (in Neutralization Tank)
PCBE:	Central Maintenance Facility active drainage system - filtration (then trucked to Bruce NGS-A) WVRF active sump effluent - incineration with residue trucked to Bruce NGS-A for further treatment WVRF inactive sump effluent - incineration

Secondary

P:	sanitary sewage - conventional activated sludge plant (Bruce SPP)

Site: **Darlington NGS - Construction**

Location: Lake Ontario, at Bowmanville

History: 1st unit not yet in service
station expected to be completed in 1992

Type: (future) 4 units, uranium oxide fuel (natural)

Capacity: (future) 3,524 MW

Employees: 7,000 peak

Wastewater Treatment:

None

BBE:	blowdown tanks (construction boilerhouse) - to boilerhouse drains
ECE:	utility washdown effluent - to boilerhouse drains
P:	water treatment plant regeneration wastes - to boilerhouse drains
PCBE:	construction boilerhouse drains - to site storm drainage system
SW:	yard drains (storm drains) - to lake

Primary

ECE:	pipe cleaning shop effluents - to sanitary sewage system
P:	sanitary sewage - equalization / sedimentation / chlorination
WD:	construction waste disposal site - sedimentation (in pond)

Secondary

P:	sanitary sewage - rotating biological contactor

Commissioning Waste Streams

Wastewater Treatment:

None

ECE: boiler and piping systems cleaning effluents, wet layup storage effluents - to condenser cooling water (CCW) discharge (when CCW flow above minimum required)
commissioning waste lagoon effluent - to site drainage system

Primary

ECE: boiler and piping systems cleaning effluents, wet layup storage effluents - to waste lagoon (when insufficient CCW flow)
hydrostatic testing effluents - to waste lagoon
condenser leak testing effluents - to waste lagoon
commissioning waste lagoon - sedimenation

Secondary

n/a

Atomic Energy of Canada Limited (AECL)

Associated Facilities:

Site:	**Chalk River Nuclear Laboratories**	
Location:	Ottawa River, near Chalk River	
History:	established in 1945	
Type:	2 reactors, uranium-aluminum alloy fuel	
	facilities present:	research reactors; research laboratories and support facilities; isotope production facilities; heavy-water upgrading plant; waste management areas.
Capacity:	NRU - 135 MW, NRX - 42 MW (thermal)	
Flowrate:	125,000 m^3/d	
Employees:	1,900	

Wastewater Treatment:

None

BDE:	Waste Treatment Centre - to Perch Creek (Perch Creek Basin)
CE:	powerhouse combined drain
OTCW:	reactor cooling water (process sewer)
P:	boiler blowdown active effluents - to Liquid Dispersal Area
SW:	storm sewers, 01, 03, 04, 05
WD:	Waste Management Areas C, F , old chemical/solvent disposal - to Duke Stream (Maskinonge Lake Basin) Waste Management Areas A, B, D, Liquid Dispersal Area inactive landfill (stream 02)

Primary

BDE:	(future) active effluents - to Waste Treatment Centre Waste Treatment Centre - microfiltration / reverse osmosis
P:	sanitary sewage - equalization / chlorination

Secondary

P:	n/a

Site: **Douglas Point Waste Management Facility**

Location: Lake Huron, at Tiverton

History: construction began in 1960
unit began service in 1967
station shut down and decommissioning started in 1984
partial decommissioning completed in 1988
station to be maintained in a storage mode for the next 40 years

Type: partially decommissioned nuclear generating station

Capacity: n/a (formerly 200MW)

Employees: 6

Wastewater Treatment:

None

ECE: Decontamination Centre active drainage - to active liquid storage tanks (ALST)
ALST low activity effluent - to lake

OTCW: instrument air compressor cooling water - to turbine hall sump

PCBE: turbine hall floor drains - to turbine hall sump
turbine hall sump - to Douglas Point Outfall

SW: reactor building groundwater sump, Spent Fuel Bay groundwater sump - to Douglas Point outfall
site drainage system - to lake

Primary

ECE: ALST high activity effluent - trucked to Bruce NGS-B for treatment

P: water treatment plant wastes - to BNPD Sewage Processing Plant
sanitary sewage - to sewage lagoon

Secondary

n/a (water treatment plant wastes - to BNPD Sewage Processing Plant)

Site:	**Nuclear Power Demonstration (NPD) Waste Management Facility**
Location:	Ottawa River, at Rolphton
History:	site began service in 1962 station shut down and decommissioning started in 1987 partial decommissioning to be completed in 1988 station to be maintained in a long-term storage state
Type:	partially decommissioned nuclear power demonstration site
Capacity:	n/a (formerly 25MW)
Employees:	None (remote monitoring)

Wastewater Treatment:

<u>None</u>

PCBE:	inactive drainage (building drains) - to river via condenser cooling water (CCW) duct active drainage - to wells area sump wells area sump low activity effluent - to river via inactive floor drains
SW:	yard drain (ring drain) roof drains - to CCW duct

<u>Primary</u>

PCBE:	wells area sump high activity effluent - trucked to Chalk River Nuclear Laboratories

<u>Secondary</u>

n/a

APPENDIX 2

TABLE 1

STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES FOR THE ELECTRIC POWER GENERATION SECTOR

MAJOR GROUP CLASS	SIC	NAME
49	4911	ATIKOKAN TGS, OH, ATIKOKAN
		J.C.KEITH TGS, OH, WINDSOR
		LAKEVIEW TGS, OH, MISSISSAUGA
		LAMBTON TGS, OH, COURTRIGHT
		LENNOX TGS,OH,S.FREDERICKSBERG
		NANTICOKE TGS, OH, NANTICOKE
		R.L. HEARN TGS, OH, TORONTO
		THUNDERBAY TGS, OH, THUNDERBAY
		BRUCE A NGS, OH, TIVERTON BRUCE B NGS, OH, TIVERTON
		DARLINGTON NGS, OH, BOWMANVILLE
		PICKERING A NGS, OH, PICKERING PICKERING B NGS, OH, PICKERING
	4999	BRUCE HEAVY WATER PLANTS, OH, TIVERTON
		BRUCE NUCLEAR POWER DEVELOPMENT SERVICES, OH, TIVERTON
		BRUCE SEWAGE PROCESSING PLANT, OH, TIVERTON
		BRUCE NUCLEAR WASTE STORAGE SITE, OH, TIVERTON

		DOUGLAS POINT WMF, AECL, TIVERTON NUCLEAR POWER DEMONSTRATION WMF, AECL, ROLPHTON
41	4111	DARLINGTON NGS-CONSTRUCTION, OH, BOWMANVILLE
--	----	CHALK RIVER NUCLEAR LABORATORIES, AECL, CHALK RIVER
--	----	AGUASABON GS ARNPRIOR GS DECEW NF 23 GS PINE PORTAGE GS SILVER FALLS GS SIR ADAM BECK 2 GS

NGS = NUCLEAR GENERATING STATION
TGS = THERMAL GENERATING STATION (FOSSIL-FUELLED)
GS = HYDRAULIC GENERATING STATION
WMF = WASTE MANAGEMENT FACILITY
OH = ONTARIO HYDRO
AECL = ATOMIC ENERGY OF CANADA LIMITED

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Abietic Acid	514-10-3	-
Acenaphthene	83-32-9	19
Acenaphthene, 5-nitro	602-87-9	19
Acenaphthylene	208-96-8	19
Acridine	260-94-6	-
Acrolein	107-02-8	18
Acrylamide	79-06-1	-
Acrylonitrile	107-13-1	18
Aluminum	7429-90-5	9
4-Aminoazobenzene	60-09-3	-
Aniline	62-53-3	-
Anthracene	120-12-7	19
Antimony	7440-36-0	10
Aroclor 1016 (PCB)	12674-11-2	27
Aroclor 1221 (PCB)	11104-28-2	27
Aroclor 1232 (PCB)	11141-16-5	27
Aroclor 1242 (PCB)	53469-21-9	27
Aroclor 1248 (PCB)	12672-29-6	27
Aroclor 1254 (PCB)	11097-69-1	27
Aroclor 1260 (PCB)	11096-82-5	27
Arsenic	7440-38-2	10
Benzaldehyde	100-52-7	-
Benz(a)acridine	225-11-6	-
Benz(a)anthracene	56-55-3	19
Benzene	71-43-2	17
Benzeneacetonitrile	140-29-4	-
Benzidine	92-87-5	-
1H-Benzimidazole	51-17-2	-
Benzo(b)fluoranthene	205-99-2	19
Benzo(k)fluoranthene	207-08-9	19
Benzo(g,h,i)perylene	191-24-2	19
Benzo(a)pyrene	50-32-8	19
Benzo(h)quinoline	230-27-3	-
Benzo(b)thiophene	95-15-8	-
Benzyl alcohol	100-51-6	-
Beryllium	7440-41-7	9
Biphenyl	92-52-4	19
Borneol	507-70-0	-
Boron	7440-42-8	9
1-Bromo-2-chloroethane	107-04-0	-
Bromodichloromethane	75-27-4	16
Bromoform	75-25-2	16
Bromomethane	74-83-9	16

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
p-Bromophenol	106-41-2	-
4-Bromophenyl phenyl ether	101-55-3	19
1,3-Butadiene	106-99-0	-
Butanal	123-72-8	-
2-Butenoic acid	3724-65-0	-
2-(2-Butoxyethoxy)ethanol	112-34-5	-
Butylamine	109-73-9	-
N-t-butyl-2-benzothiazolesulphenamide	95-31-8	-
Butylbenzylphthalate	85-68-7	19
Cadmium	7440-43-9	9
Camphene	79-92-5	19
9H-Carbazole	86-74-8	-
Carbon Disulfide	75-15-0	-
Carbon tetrachloride	56-23-5	16
Chorinated dibenzofurans*	N/A	24
Chorinated dibenzo-p-dioxins*	N/A	24
Chlorobenzene	108-90-7	16
Chlorodehydroabietic acid	57055-38-6	-
Chlorodibromomethane	124-48-1	16
Chloroform	67-66-3	16
Chloromethane	74-87-3	16
Bis(2-chloroethoxy)methane	111-91-1	19
Bis(2-chloroethyl)ether	111-44-4	19
Bis(2-chloroisopropyl)ether	108-60-1	19
Bis(chloromethyl)ether	542-88-1	-
4-Chloro-3-methylphenol	59-50-7	20
1-Chloronaphthalene	90-13-1	19
2-Chloronaphthalene	91-58-7	19
o-Chlorophenol	95-57-8	20
4-Chlorophenylphenyl ether	7005-72-3	19
Chromium	7440-47-3	9
Chrysene	218-01-9	19
Cineole	470-82-6	-
Cobalt	7440-48-4	9
Copper	7440-50-8	9
m-Cresol	108-39-4	20
o-Cresol	95-48-7	20
p-Cresol	106-44-5	20
Cyclohexanol	108-93-0	-
Cyclohexanone	108-94-1	-
Cyclohexylamine	108-91-8	-
n-Cyclohexyl-2-benzothiazole sulphenamide	95-33-0	-
Dehydroabietic acid	1740-19-8	-

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Dibenz(a,h)anthracene	53-70-3	19
2,6-Di-t-butyl-4-methylphenol	128-37-0	-
Di-n-butylphthalate	84-74-2	19
Di-n-octyl phthalate	117-84-0	19
1,2-Dichlorobenzene	95-50-1	16
1,3-Dichlorobenzene	541-73-1	16
1,4-Dichlorobenzene	106-46-7	16
3,3'-Dichlorobenzidine	91-94-1	-
1,4-Dichlorobut-2-ene	764-41-0	-
1,2-Dichlorobut-3-ene	760-23-6	-
Dichlorobutene (mixture)	11069-19-5	-
1,1-Dichloroethane	75-34-3	16
1,2-Dichloroethane	107-06-2	16
Cis-1,2-Dichloroethylene	156-59-2	-
Trans-1,2-Dichloroethylene	156-60-5	16
1,1-Dichloroethylene	75-35-4	16
4,5-Dichloroguaiacol	2460-49-3	-
2,4-Dichlorophenol	120-83-2	20
2,6-Dichlorophenol	87-65-0	20
1,2-Dichloropropane	78-87-5	16
Cis-1,3-Dichloropropylene	10061-01-5	16
Trans-1,3-Dichloropropylene	10061-02-6	16
1,2-Diethylbenzene (ortha)	135-01-3	-
1,3-Diethylbenzene (meta)	141-93-5	-
Diethyl phthalate (DEP)	84-66-2	-
n,n-Diethyl-m-toluamide (DEET)	134-62-3	-
5,6-Dihydro-2-methyl-1,4-oxathiin-3-carboxanilide	5234-68-4	-
5,6-Dihydro-2-methyl-1,4-oxathiin-3-carboxanilide-4,4-dioxide	5259-88-1	-
Dimethyl disulphide	624-92-0	-
Dimethylphenol	1300-71-6	-
2,4-Dimethylphenol	105-67-9	20
2,5-Dimethylphenol	95-87-4	-
2,6-Dimethylphenol	576-26-1	-
3,4-Dimethylphenol	95-65-8	-
3,5-Dimethylphenol	108-68-9	-
Dimethyl sulphide	75-18-3	-
4,6-Dinitro-o-cresol	534-52-1	20
2,4-Dinitrophenol	51-28-5	20
2,4-Dinitrotoluene	121-14-2	19
2,6-Dinitrotoluene	606-20-2	19
4,4'-Di-n-octyldiphenylamine	101-67-7	-

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
1,4-Dioxane	123-91-1	-
Diphenylamine	122-39-4	19
Diphenyl ether	101-84-8	19
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	-
Diphenyl 4,4'-methylenedicarbanilate	101-65-5	-
Ethanol	64-17-5	-
Ethylbenzene	100-41-4	17
Bis(2-Ethylhexyl)phthalate	117-81-7	19
Ethylene dibromide	106-93-4	16
Ethylene thiourea	96-45-7	-
Eugenol	97-53-0	-
Fluoranthene	206-44-0	19
Fluorene	86-73-7	19
Formaldehyde	50-00-0	-
Furfural	98-01-1	-
Guaiacol	90-05-1	-
Hexachlorobenzene	118-74-1	23
Hexachlorobutadiene (HCBD)	87-68-3	23
1,2,3,4,5,6-Hexachlorocyclohexane (gamma isomer) (Lindane)	58-89-9	-
Hexachlorocyclopentadiene	77-47-4	23
Hexachloroethane	67-72-1	23
Hydrazine	302-01-2	-
Hydrogen sulphide	7783-06-4	-
2-Hydroxybiphenyl	90-43-7	-
4-Hydroxybiphenyl	92-69-3	-
2-Hydroxy-3-methyl-2-cyclopenten-1-one	80-71-7	-
Indeno(1,2,3-cd)pyrene	193-39-5	19
Indole	120-72-9	19
Isopimaric acid	5835-26-7	-
Lead	7439-92-1	9
Levopimaric acid	79-54-9	-
Limonene	138-86-3	-
Lithium	7439-93-2	9
Mercaptobenzothiazole	149-30-4	-
2-Mercaptobenzothiazole disulphide	120-78-5	-
2-Mercaptoethanol	60-24-2	-
Mercury	7439-97-6	12
2,2-Methylenebis(6-nonyl)-p-cresol	7786-17-6	-
Methylene chloride	75-09-2	16
Methyl ethyl ketone	78-93-3	-
n-Methylformamide	123-39-7	-
Methylmethacrylate	80-62-6	-

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
1-Methylnaphthalene	90-12-0	19
2-Methylnaphthalene	91-57-6	19
2-Methylpyridine	109-06-8	-
Methyl styrene	25013-15-4	-
m-Methylstyrene	100-80-1	-
p-Methylstyrene	622-97-9	-
Molybdenum	7439-98-7	9
Morpholine	110-91-8	-
n-Morpholinyl-2-benzothiazole sulphenamide	102-77-2	-
Naphthalene	91-20-3	19
1-Naphthalenol	90-15-3	-
Neoabietic acid	471-77-2	-
Nickel	7440-02-0	9
Nitrobenzene	98-95-3	-
1-Nitronaphthalene	86-57-7	-
2-Nitronaphthalene	581-89-5	-
2-Nitrophenol	88-75-5	-
4-Nitrophenol	100-02-7	20
n-Nitrosodimethylamine	62-75-9	-
n-Nitrosodi-n-propylamine	621-64-7	19
n-Nitrosodiphenylamine	86-30-6	19
4-Nitrosomorpholine	59-89-2	-
Octachlorostyrene	29082-74-4	23
Oleic Acid	112-80-1	-
Pentachlorobenzene	608-93-5	23
Pentachlorophenol	87-86-5	20
Perylene	198-55-0	19
Phenanthrene	85-01-8	19
Phenol	108-95-2	20
n-phenylacetomide	103-84-4	-
Pimaric acid	127-27-5	-
Pine oil	8002-09-3	-
Potassium ethyl xanthate	140-89-6	-
Potassium hexyl xanthate	2720-76-5	-
Pyrene	129-00-0	19
Quinoline	91-22-5	-
8-Quinolinol	148-24-3	-
Selenium	7782-49-2	10
Silver	7440-22-4	9
Sodium butylxanthate	141-33-3	-
Sodium dimethyl dithio carbamate	128-04-1	-
Sodium ethylxanthate	140-90-9	-
Strontium	7440-24-6	9

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Styrene	100-42-5	17
Tannic acid	1401-55-4	-
Tetrachloroacetone	31422-61-4	-
1,1,3,3-Tetrachloroacetone	632-21-3	-
1,2,3,4-Tetrachlorobenzene	634-66-2	23
1,2,3,5-Tetrachlorobenzene	634-90-2	23
1,2,4,5-Tetrachlorobenzene	95-94-3	23
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	24
1,1,1,2-Tetrachlorethane	630-20-6	-
1,1,2,2-Tetrachlorethane	79-34-5	16
Tetrachloroethylene	127-18-4	16
Tetrachloroguaiacol	2539-17-5	-
2,3,4,5-Tetrachlorophenol	4901-51-3	20
2,3,4,6-Tetrachlorophenol	58-90-2	20
2,3,5,6-Tetrachlorophenol	935-95-5	20
Tetraethyl lead	78-00-2	13
Tetraethyl thiuram disulphide	97-77-8	-
Tetrahydrofuran	109-99-9	-
1,2,3,4-Tetrahydronaphthalene (Tetralin)	119-64-2	-
Tetramethyl thiuram disulphide	137-26-8	-
Thallium	7440-28-0	9
Thiophene	110-02-1	-
Thiourea	62-56-6	-
Toluene	108-88-3	17
2,4-Toluene diisocyanate	584-84-9	-
2,6-toluene diisocyanate (2,6-TDI)	91-08-7	-
Toluene diisocyanate-mixture (TDI)	26471-62-5	-
Tributyl phosphate	126-73-8	-
1,1,3-Trichloroacetone	921-03-9	-
1,2,3-Trichlorobenzene	87-61-6	23
1,2,4-Trichlorobenzene	120-82-1	23
1,1,1-Trichloroethane	71-55-6	-
1,1,2-Trichloroethane	79-00-5	16
Trichloroethylene	79-01-6	16
Trichlorofluoromethane	75-69-4	16
Trichloroguaiacol	61966-36-7	-
2,3,4-Trichlorophenol	15950-66-0	20
2,3,5-Trichlorophenol	933-78-8	20
2,4,5-Trichlorophenol	95-95-4	20
2,4,6-Trichlorophenol	88-06-2	20
2,4,5-Trichlorotoluene	6639-30-1	23
Triethyl lead	N/A	13
1,2,4-Trimethylbenzene	95-63-6	-

TABLE 2 - EFFLUENT MONITORING PRIORITY POLLUTANTS LIST (EMPPL) (1988 UPDATE)

EMPPL PARAMETERS	CAS #	ANALYTICAL TEST GROUP #
Trimethylbenzenes	25551-13-7	-
Trimethylnaphthalenes	28652-77-9	-
Trixylyl phosphate	25155-23-1	-
Uranium	7440-61-1	9
Vanadium	7440-62-2	9
Vanillic acid	121-34-6	-
Vinyl chloride	75-01-4	16
o-Xylene	95-47-6	17
m-Xylene	108-38-3	17
p-Xylene	106-42-3	17
Zinc	7440-66-6	9
Zinc diethyl dithio carbamate	14324-55-1	-

* Represents tetra-, penta-, hexa-, hepta-, and octa- congeners

NOTE: 1. MOE analytical methods are NOT currently available for parameters shown in bold print.

2. Italicized print indicates parameters added to EMPPL in the Nov. 1988 update.

Number of parameters with existing validated analytical methods	141
Number of parameters with no analytical methods	125
Total Number of EMPPL Parameters/Groups	266

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

CONVENTIONALS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	N/A*
2	Cyanide	Cyanide	57-12-5
3	Hydrogen ion (pH)	Hydrogen ion (pH)	N/A*
4a	Nitrogen	Ammonia plus Ammonium	N/A*
		Total Kjeldahl nitrogen	N/A*
4b		Nitrate + Nitrite	N/A*
5a	Organic carbon	Dissolved organic carbon (DOC)	N/A*
5b		Total organic carbon (TOC)	N/A*
6	Total phosphorus	Total phosphorus	7723-14-0
7	Specific conductance	Specific conductance	N/A*
8	Suspended solids	Total suspended solids (TSS)	N/A*
		Volatile suspended solids (VSS)	N/A*
14	Phenolics (4AAP)	Phenolics (4AAP)**	N/A*
15	Sulphide	Sulphide	N/A*
25	Solvent Extractables	Oil and grease	N/A*

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
9	Total metals	Aluminum	7429-90-5
		Beryllium	7440-41-7
		Boron	7440-42-8
		Cadmium	7440-43-9
		Chromium	7440-47-3
		Cobalt	7440-48-4
		Copper	7440-50-8
		Lead	7439-92-1
		Lithium	7439-93-2
		Molybdenum	7439-98-7
		Nickel	7440-02-0
		Silver	7440-22-4
		Strontium	7440-24-6
		Thallium	7440-28-0
		Vanadium	7440-62-2
		Zinc	7440-66-6
10	Hydrides	Antimony	7440-36-0
		Arsenic	7440-38-2
		Selenium	7782-49-2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	7440-47-3
12	Mercury	Mercury	7439-97-6

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	79-34-5
		1,1,2-Trichloroethane	79-00-5
		1,1-Dichloroethane	75-34-3
		1,1-Dichloroethylene	75-35-4
		1,2-Dichlorobenzene	95-50-1
		1,2-Dichloroethane (Ethylene dichloride)	107-06-2
		1,2-Dichloropropane	78-87-5
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7
		Bromodichloromethane	75-27-4
		Bromoform	75-25-2
		Bromomethane	74-83-9
		Carbon tetrachloride	56-23-5
		Chlorobenzene	108-90-7
		Chloroform	67-66-3
		Chloromethane	74-87-3
		Cis-1,3-Dichloropropylene	10061-01-5
		Dibromochloromethane	124-48-1
		Ethylene dibromide	106-93-4
		Methylene chloride	75-09-2
		Tetrachloroethylene (Perchloroethylene)	127-18-4
		Trans-1,2-Dichloroethylene	156-60-5
		Trans-1,3-Dichloropropylene	10061-02-6
		Trichloroethylene	79-01-6
		Trichlorofluoromethane	75-69-4
		Vinyl chloride (Chloroethylene)	75-01-4

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
17	Volatiles, Non-Halogenated	Benzene	71-43-2
		Styrene	100-42-5
		Toluene	108-88-3
		o-Xylene	95-47-6
		m-Xylene and p-Xylene	108-38-3
			& 106-42-3
19	Extractables, Base Neutral	Acenaphthene	83-32-9
		5-nitro Acenaphthene	602-87-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(a)pyrene	50-32-8
		Benzo(b)fluoranthene	205-99-2
		Benzo(g,h,i)perylene	191-24-2
		Benzo(k)fluoranthene	207-08-9
		Biphenyl	92-52-4
		Camphene	79-92-5
		1-Chloronaphthalene	90-13-1
		2-Chloronaphthalene	91-58-7
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		Fluoranthene	206-44-0
		Fluorene	86-73-7

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
19	Extractables, Base Neutral (continued)	Indeno(1,2,3-cd)pyrene	193-39-5
		Indole	120-72-9
		1-Methylnaphthalene	90-12-0
		2-Methylnaphthalene	91-57-6
		Naphthalene	91-20-3
		Perylene	198-55-0
		Phenanthrene	85-01-8
		Pyrene	129-00-0
		Benzyl butyl phthalate	85-68-7
		Bis(2-ethylhexyl) phthalate	117-81-7
		Di-n-butyl phthalate	84-74-2
		4-Bromophenyl phenyl ether	101-55-3
		4-Chlorophenyl phenyl ether	7005-72-3
		Bis(2-chloroisopropyl)ether	108-60-1
		Bis(2-chloroethyl)ether	111-44-4
		Diphenyl ether	10-184-8
		2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Bis(2-chloroethoxy)methane	111-91-1
		Diphenylamine	122-39-4
		N-Nitrosodiphenylamine	86-30-6
		N-Nitrosodi-n-propylamine	621-64-7

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	4901-51-3
		2,3,4,6-Tetrachlorophenol	58-90-2
		2,3,5,6-Tetrachlorophenol	935-95-5
		2,3,4-Trichlorophenol	15950-66-0
		2,3,5-Trichlorophenol	933-78-8
		2,4,5-Trichlorophenol	95-95-4
		2,4,6-Trichlorophenol	88-06-2
		2,4-Dimethyl phenol	105-67-9
		2,4-Dinitrophenol	51-28-5
		2,4-Dichlorophenol	120-83-2
		2,6-Dichlorophenol	87-65-0
		4,6-Dinitro-o-cresol	534-52-1
		2-Chlorophenol	95-57-8
		4-Chloro-3-methylphenol	59-50-7
		4-Nitrophenol	100-02-7
		m-Cresol	108-39-4
		o-Cresol	95-48-7
		p-Cresol	106-44-5
		Pentachlorophenol	87-86-5
		Phenol	108-95-2

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	634-66-2
		1,2,3,5-Tetrachlorobenzene	634-90-2
		1,2,4,5-Tetrachlorobenzene	95-94-3
		1,2,3-Trichlorobenzene	87-61-6
		1,2,4-Trichlorobenzene	120-82-1
		2,4,5-Trichlorotoluene	6639-30-1
		Hexachlorobenzene	118-74-1
		Hexachlorobutadiene	87-68-3
		Hexachlorocyclopentadiene	77-47-4
		Hexachloroethane	67-72-1
		Octachlorostyrene	29082-74-4
		Pentachlorobenzene	608-93-5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
		Octachlorodibenzo-p-dioxin	326-88-7
		Octachlorodibenzofuran	Unavailable
		Total heptachlorinated dibenzo-p-dioxins	Unavailable
		Total heptachlorinated dibenzofurans	Unavailable
		Total hexachlorinated dibenzo-p-dioxins	34465-46-8
		Total hexachlorinated dibenzofurans	Unavailable
		Total pentachlorinated dibenzo-p-dioxins	Unavailable
		Total pentachlorinated dibenzofurans	Unavailable
		Total tetrachlorinated dibenzo-p-dioxins	Unavailable
		Total tetrachlorinated dibenzofurans	Unavailable

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

#	ANALYTICAL TEST GROUP NAME	PARAMETERS	CAS #s†
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	Unavailable
28a	Open Characterization - Volatiles		
28b	Open Characterization - Extractables		
29	Open Characterization - Elemental	Aluminum	7429-90-5
		Antimony	7440-36-0
		Arsenic	7440-38-2
		Barium	7440-39-3
		Beryllium	7440-41-7
		Bismuth	7440-69-9
		Boron	7440-42-8
		Cadmium	7440-43-9
		Calcium	7440-70-2
		Cerium	7440-45-1
		Cesium	7440-46-2
		Chromium	7440-47-3
		Cobalt	7440-48-4
		Copper	7440-50-8
		Dysprosium	7429-91-6
		Erbium	7440-52-0
		Europium	7440-53-1
		Gadolinium	7440-54-2
		Gallium	7440-55-3
		Germanium	7440-56-4
		Gold	7440-57-5

#	ANALYTICAL TEST GROUP NAME	PARAMETERS	CAS #s†
29	Open Characterization - Elemental (continued)	Halnium	7440-58-6
		Holmium	7440-60-0
		Indium	7440-74-6
		Iridium	7439-88-5
		Iron	7439-89-6
		Lanthanum	7439-91-0
		Lead	7439-92-1
		Lithium	7439-93-2
		Lutetium	7439-94-3
		Magnesium	7439-95-4
		Manganese	7439-96-5
		Mercury	7439-97-6
		Molybdenum	7439-98-7
		Neodymium	7440-00-8
		Nickel	7440-02-0
		Niobium	7440-03-1
		Osmium	7440-04-2
		Palladium	7440-05-3
		Phosphorus	7723-14-0
		Platinum	7440-06-4
		Potassium	7440-09-7
		Praseodymium	7440-10-0
		Rhenium	7440-15-5
		Rhodium	7440-16-6
		Rubidium	7440-17-7
		Ruthenium	7440-18-8
		Samarium	7440-19-9
		Scandium	7440-20-2
		Selenium	7782-49-2
		Silicon	7440-21-3

TABLE 3 - ELECTRIC POWER GENERATION (EPG) SECTOR

CONVENTIONAL AND SECTOR PRIORITY POLLUTANT LIST (SHOWN BY ANALYTICAL TEST GROUPS)

SECTOR PRIORITY POLLUTANTS

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
29	Open Characterization - Elemental (continued)	Silver	7440-22-4
		Sodium	7440-02-35
		Strontium	7440-24-6
		Sulfur	7704-34-9
		Tantalum	7440-25-7
		Tellurium	13494-80-9
		Terbium	7440-27-9
		Thallium	7440-28-0
		Thorium	7440-29-1
		Thulium	7440-30-4
		Tin	7440-31-5
		Titanium*	7440-32-6
		Tungsten	7440-33-7
		Uranium	7440-61-1
		Vanadium	7440-62-2
		Ytterbium	7440-64-4
		Yttrium	7440-65-5
		Zinc	7440-66-6
		Zirconium	7440-67-7

SECTOR-SPECIFIC CONVENTIONAL POLLUTANTS (NOT ON EMPPL)

ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s†
E1	Metals	Iron	7439-89-6
E2	Total Residual Oxidants (TRO)	Total Residual Oxidants	
E3	Diethanolamine	Diethanolamine	

† CAS #s - Chemical Abstract Service Registry Numbers

* N/A - Not Applicable

** 4AAP = 4-amino antipyrine method

TABLE 4 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING PROGRAM

NUMBER OF CHARACTERIZATIONS AND DIOXIN TESTS PER STATION

SITE	STREAM	CHARACTERIZATIONS		DIOXINS	
		INDUSTRY	MOE	INDUSTRY	MOE
Atikokan Thermal Generating Station	Intake	1	0	0	0
	Boiler Blowdown	0	0	0	0
	Furnace Ash Water Treatment	1	1	0	1
	Oily Water Separator	1	0	0	0
	Neutralization Sump	0	0	0	0
	Outfall	1	0	0	0
J. C. Keith TGS	Ash Lagoon Discharge	2	1	2	1
Lakeview Thermal Generating Station	Intake	3	0	2	0
	Outfall	3	0	2	0
	Coal Pile Drainage Pond	3	1	2	1
	Bottom Ash Filtration Plant	3	0	2	0
	Boiler Blowdown	2	0	2	0
	Oily Water Separator	2	0	2	0
	Ash Settling Pond Overflow	2	0	2	0
	Coal Pile Runoff Overflow	1	0	1	0
	Switch Yard Drain	1	0	1	0
	Unit Transformer Yard Drainage	2	0	2	0
	South Yard Drain	2	0	2	0
	North Yard Drain	1	0	1	0
Lambton Thermal Generating Station	Intake	1	0	0	0
	Ash Filter Plant	1	0	0	0
	Boiler Blowdown	0	0	0	0
	Lake Lambton	1	0	0	0
	Outfall	1	0	0	0
Lennox Thermal Generating Station	Intake	2	0	2	0
	Oily Water Treatment Pond Discharge	2	1	2	1
	West Interceptor	2	0	2	0
	East Interceptor	2	0	2	0
	Air Pre-heaters Wash Lagoon	2	0	2	0
Nanticoke Thermal Generating Station	Intake	3	0	2	0
	Ash Lagoon Effluent	3	1	2	1
	Boiler Blowdown	2	0	2	0
	Unit 2 Floor Drain Sump	2	0	2	0
	North Yard Drain	2	0	2	0
	Coal Pile Runoff Overflow	2	0	2	0
	Water Treatment Plant Neutralization Sump	0	0	0	0
	Condensor Cooling Water	1	0	0	0
R. L. Hearn Thermal Generating Station	Intake	2	0	2	0
	Drainage Collection Sump	2	1	2	1

TABLE 4 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING PROGRAM

NUMBER OF CHARACTERIZATIONS AND DIOXIN TESTS PER STATION

SITE	STREAM	CHARACTERIZATIONS		DIOXINS	
		INDUSTRY	MOE	INDUSTRY	MOE
Thunder Bay Thermal Generating Station	Intake	3	0	2	0
	Ash Transport Water Treatment System	3	0	2	0
	Ash Transport Water Treatment System Overflow	2	1	2	1
	Water Treatment Plant Neutralization Sump	2	0	2	0
	Oily Water Separator	2	0	2	0
	Coal Pile Runoff Pond	2	0	2	0
	Boiler Blowdown	0	0	0	0
	Condensor Cooling Water Outfall	1	0	0	0
Decew Falls Hydraulic Generating Station	Transformer Drainage Sump	1	0	1	0
	Catch Basin	1	1	1	1
Pine Portage Hydraulic Generating Station	Intake	2	0	2	0
	Drainage Sump	2	1	2	1
Sir Adam Beck Hydraulic Generating Station	Intake	2	0	2	0
	Drainage Sump	2	1	2	1
Bruce A Nuclear Generating Station	Intake	2	0	2	0
	Outfall	2	0	2	0
	Boiler Blowdown	2	0	2	0
	Boiler Wet Lay-up	1	0	1	0
	Water Treatment Plant Neutralization Sump	2	1	2	1
	Radioactive Liquid Waste Management Tank	2	0	2	0
	Turbine Room Sump Unit	2	1	2	1
	Reactor Auxiliary Bay Sump	2	0	2	0
	Services Building	2	0	2	0
	Water Treatment Plant	2	0	2	0
	Ancillary Services Building	2	0	2	0
	Accumulator Building	2	0	2	0
	ECI Water Storage Tank Building	2	0	2	0
Bruce B Nuclear Generating Station	Intake	0	0	0	0
	Outfall	0	0	0	0
	Radioactive Liquid Waste Disposal Tank Pump Discharge	2	0	2	0
Bruce Heavy Water Plants	Intake	2	0	2	0
	Outfall	2	0	2	0
	Process Effluent	2	1	2	1
	Degasser Hotwell	2	0	2	0
	Intermittent Stripper Effluent	2	0	2	0
	Effluent Lagoon	2	0	2	0
	Surface Drainage Lagoon	2	0	2	0
	Cooling Water from E4	2	0	2	0
	Cooling Water from North Flare	2	0	2	0
Bruce Nuclear Power Development Services	Sewage Processing Plant Effluent	2	1	2	1
	Stream C Tie Road	2	0	2	0
	Stream C at Baie du Dore	2	0	2	0
	Radioactive Waste Disposal Site Drainage	2	0	2	0
	Condensate Plant Neutralization Sump	2	0	2	0
	Ditch	2	0	2	0

TABLE 4 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING PROGRAM

NUMBER OF CHARACTERIZATIONS AND DIOXIN TESTS PER STATION

SITE	STREAM	CHARACTERIZATIONS		DIOXINS	
		INDUSTRY	MOE	INDUSTRY	MOE
Chalk River Nuclear Laboratories	Duke Stream	1	0	1	0
	Perch Creek	1	0	1	0
	NRX Intake	1	0	1	0
	Pump House Drain	1	0	1	0
	Process Sewer	1	1	1	1
	Sanitary Sewer	1	0	1	0
	01 Stream	1	0	1	0
	02 Stream	1	0	1	0
	03 Stream	1	0	1	0
	04 Stream	1	0	1	0
	05 Stream	1	0	1	0
Darlington Nuclear Generating Station (under construction)	Intake	3	0	2	0
	Sewage Treatment Plant	3	1	2	1
	Boiler Blowdown	2	0	2	0
	Water Treatment Plant	2	0	2	0
	Storm Drain	2	0	2	0
	Pipe Cleaning Rinse Tank A	2	0	1	0
	Pipe Cleaning Rinse Tank B	2	0	2	0
	Waste Lagoon	3	0	2	0
	Waste Disposal Site Settling Pond	3	0	2	0
Douglas Point Nuclear Generating Station	Intake	1	0	1	0
	Outfall	2	1	2	1
Nuclear Power Demonstration Waste Management Facility	Intake	2	0	2	0
	Inactive Drainage	2	1	2	1
	Manhole Number 2	2	0	2	0
Pickering Nuclear Generating Station	Intake	0	0	0	0
	Outfall Unit 3	0	0	0	0
	Outfall Unit 5	0	0	0	0
	Radioactive Liquid Waste Management Tank	2	0	2	0

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
FOSSIL FUELLED THERMAL GENERATING STATIONS			
Atikokan Thermal Generating Station	Intake	N/A	N/A
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Furnace Ash Water Treatment	Ash Transport Water System	Process Effluent
	Oily Water Separator	Oily Water Separator	Process Effluent
	Neutralization Sump	Water Treatment Plant Neutralization Sump	Process Effluent
	Outfall	-	Once Through Cooling Water
J. C. Keith Thermal Generating Station	Ash Lagoon Discharge	-	Storm Water
Lakeview Thermal Generating Station	Intake - Lake Ontario	N/A	N/A
	Outfall - units 1-4 or 5-8	-	Once Through Cooling Water
	Coal Pile Drainage Pond	-	Coal Pile Effluent
	Bottom Ash Filtration Plant	Ash Transport Water System	Process Effluent
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Oily Water Separator	Oily Water Separator	Process Effluent
	Ash Settling Pond Overflow	Ash Transport Water Treatment System Overflow	Emergency Overflow
	Coal Pile Runoff Overflow	-	Coal Pile Effluent/ Emergency Overflow
	Switch Yard Drainage	-	Storm Water
	Unit Transformer Yard Drainage	-	Storm Water
	South Yard Drain	-	Storm Water
	North Yard Drain	-	Storm Water

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
Lambton Thermal Generating Station	Intake	N/A	N/A
	Ash Filter Plant	Ash Transport Water System	Process Effluent
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Lake Lambton	-	Event Discharge Effluent
	Outfall	-	Once Through Cooling Water
Lennox Thermal Generating Station	Intake	N/A	N/A
	Oily Water Treatment Pond Discharge	Oily Water Separator	Process Effluent
	West Interceptor	-	Storm Water
	East Interceptor	-	Storm Water
	Air Pre-heaters Wash Lagoon	-	Equipment Cleaning Effluent
Nanticoke Thermal Generating Station	Intake	N/A	N/A
	Ash Lagoon Effluent	Ash Transport Water System	Process Effluent
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Unit 2 Floor Drain Sump	-	Potentially Contaminated Building Effluent
	North Yard Drain	-	Storm Water
	Coal Pile Runoff Overflow	-	Coal Pile Effluent/ Emergency Overflow
	Water Treatment Plant Neutralization Sump	Water Treatment Plant Neutralization Sump	Process Effluent
	Condensor Cooling Water	-	Once Through Cooling Water
R. L. Hearn Thermal Generating Station	Intake	N/A	N/A
	Drainage Collection Sump	-	Storm Water

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
Thunder Bay Thermal Generating Station	Intake	N/A	N/A
	Ash Transport Water Treatment System	Ash Transport Water System	Process Effluent
	Ash Transport Water Treatment System Overflow	Ash Transport Water Treatment System Overflow	Emergency Overflow
	Water Treatment Plant Neutralization Sump	Water Treatment Plant Neutralization Sump	Process Effluent
	Oily Water Separator	Oily Water Separator	Process Effluent
	Coal Pile Runoff Pond	-	Coal Pile Effluent
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Condensor Cooling Water Outfall	-	Once Through Cooling Water
HYDRAULIC POWERED GENERATING STATIONS			
Decew Falls Hydraulic Generating Station	Transformer Drainage Sump	-	Storm Water
	Catch Basin	-	Storm Water
Pine Portage Hydraulic Generating Station	Intake	N/A	N/A
	Drainage Sump	-	Potentially Contaminated Building Effluent
Sir Adam Beck Hydraulic Generating Station	Intake	N/A	N/A
	Drainage Sump	-	Potentially Contaminated Building Effluent

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
NUCLEAR POWERED THERMAL GENERATING STATIONS			
Bruce A Nuclear Generating Station	Intake	N/A	N/A
	Outfall	-	Once Through Cooling Water
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Boiler Wet Lay-up	-	Equipment Cleaning Effluent
	Water Treatment Plant Neutralization Sump	Water Treatment Plant Neutralization Sump	Process Effluent
	Radioactive Liquid Waste Management Tank	Radioactive Liquid Waste Management Tanks	Batch Discharge Effluent
	Turbine Room Sump Unit	-	Potentially Contaminated Building Effluent
	Reactor Auxiliary Bay Sump	-	Potentially Contaminated Building Effluent
	Services Building	-	Potentially Contaminated Building Effluent
	Water Treatment Plant	-	Potentially Contaminated Building Effluent
	Ancillary Services Building	-	Potentially Contaminated Building Effluent
	Accumulator Building	-	Potentially Contaminated Building Effluent
	ECI Water Storage Tank Building	-	Potentially Contaminated Building Effluent
Bruce B Nuclear Generating Station	Intake	N/A	N/A
	Outfall	-	Once Through Cooling Water
	Radioactive Liquid Waste Management	Radioactive Liquid Waste Management Tanks	Batch Discharge Effluent

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
Bruce Heavy Water Plants	Intake	N/A	N/A
	Outfall	-	Once Through Cooling Water
	Process Effluent	-	Process Effluent
	Degasser Hotwell	N/A	-
	Intermittent Stripper Effluent	N/A	-
	Effluent Lagoon	Effluent Lagoon	Event Discharge Effluent
	Surface Drainage Lagoon	-	Storm Water
	Cooling Water from E4	N/A	-
	Cooling Water from North Flare	N/A	-
Bruce Nuclear Power Development Services	Sewage Processing Plant Effluent *	-	Process Effluent
	Stream 'C' Tie Road	-	Storm Water
	Stream 'C' at Baie du Dore	-	Storm Water
	Radioactive Waste Disposal Site Drainage **	-	Waste Disposal Site Effluent
	Condensate Plant Neutralization Sump	Condensate Plant Water Treatment Plant	Process Effluent
	Ditch discharging from Bruce NGS A	-	Storm Water

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
Chalk River Nuclear Laboratories	Duke Stream	Duke Stream	Waste Disposal Site Effluent
	Perch Creek	Perch Creek	Waste Disposal Site Effluent
	Intake	N/A	N/A
	Pump House Drain	Powerhouse Drain	Combined Effluent
	Process Sewer	Process Sewer	Once Through Cooling Water
	Sanitary Sewer	Sanitary Sewer	Process Effluent
	01 Stream	01 Stream	Storm Water
	02 Stream	02 Stream	Waste Disposal Site Effluent
	03 Stream	03 Stream	Storm Water
	04 Stream	04 Stream	Storm Water
	05' Stream	05 Stream	Storm Water
Darlington Nuclear Generating Station (under construction)	Intake	N/A	N/A
	Sewage Treatment Plant	Sewage Treatment Plant	Process Effluent
	Boiler Blowdown	Boiler Blowdown	Boiler Blowdown Effluent
	Water Treatment Plant	Water Treatment Plant	Process Effluent
	Storm Drain	-	Storm Water
	Pipe Cleaning Rinse Tank 2	Tank 2	Equipment Cleaning Effluent
	Pipe Cleaning Rinse Tank 4	Tank 4	Equipment Cleaning Effluent
	Waste Lagoon	Site Lagoon	Equipment Cleaning Effluent
	Waste Disposal Site Settling Pond	-	Waste Disposal Site Effluent
Douglas Point Waste Management Facility	Intake	N/A	N/A
	Outfall *	-	Once Through Cooling Water

LEGEND FOR TABLE 5 (CROSS REFERENCE BETWEEN TABLE 5 AND SCHEDULES A TO I)

STATION	NAME OF EFFLUENT STREAM FROM TABLE 5	NAME OF EFFLUENT STREAM FROM SCHEDULES A TO J	EFFLUENT STREAM CLASSIFICATION
Nuclear Power Demonstration Waste Management Facility	Intake	N/A	N/A
	Inactive Drainage	Turbine Hall Sump	Potentially Contaminated Building Effluent
	Manhole 2	Outside Sump	Storm Water
Pickering Nuclear Generating Station	Intake	N/A	N/A
	Outfall Unit 3	-	Once Through Cooling Water
	Outfall Unit 5	-	Once Through Cooling Water
	Radioactive Liquid Waste Management Tank	Radioactive Liquid Waste Management Tanks	Batch Discharge Effluent

* Requirements in Schedule E

** Requirements in Schedule E

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Atikokan Thermal Generating Station						J.C. Keith TGS
		NAME OF EFFLUENT STREAM:	Intake	Boiler Blowdown	Furnace Ash Water Treatment	Oily Water Separator	Neutralization Sump	Outfall	Ash Lagoon Discharge
ANALYTICAL TEST GROUP		PARAMETERS							
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1 / 1	1 / 1	1 / 1	-	1 / 1	1 / 1	2 / 2
2	Total cyanide	Total cyanide	0 / 1	-	0 / 1	-	-	0 / 1	0 / 2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	7	8	9	8	7	7	7
4a	Nitrogen	Ammonia plus Ammonium	0 / 1	1 / 1	0 / 1	1 / 1	1 / 1	0 / 1	0 / 2
		Total Kjeldahl nitrogen	1 / 1	0 / 1	1 / 1	1 / 1	1 / 1	0 / 1	1 / 2
4b		Nitrate + Nitrite	0 / 1	0 / 1	0 / 1	1 / 1	0 / 1	0 / 1	1 / 2
5a	Organic carbon	Dissolved organic carbon (DOC)	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 2
5b		Total organic carbon (TOC)	1 / 1	0 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2
6	Total phosphorus	Total phosphorus	0 / 1	1 / 1	1 / 1	0 / 1	0 / 1	0 / 1	1 / 2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0 / 1	0 / 1	1 / 1	0 / 1	1 / 1	0 / 1	-
		Volatile suspended solids (VSS)	-	-	-	-	-	-	-
9	Total metals	Aluminum	1 / 1	1 / 1	1 / 1	-	1 / 1	1 / 1	2 / 2
		Beryllium	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
		Cadmium	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
		Chromium	0 / 1	0 / 1	1 / 1	-	0 / 1	0 / 1	0 / 2
		Cobalt	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
		Copper	1 / 1	0 / 1	1 / 1	-	0 / 1	1 / 1	0 / 2
		Lead	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
		Molybdenum	1 / 1	0 / 1	1 / 1	-	0 / 1	1 / 1	2 / 2
		Nickel	0 / 1	0 / 1	1 / 1	-	0 / 1	0 / 1	0 / 2
		Silver	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
		Thallium	-	-	-	-	-	-	0 / 2
		Vanadium	0 / 1	0 / 1	1 / 1	-	0 / 1	0 / 1	0 / 2
		Zinc	1 / 1	1 / 1	1 / 1	-	1 / 1	1 / 1	1 / 2
10	Hydrides	Antimony	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2
		Arsenic	0 / 1	0 / 1	1 / 1	0 / 1	0 / 1	0 / 1	0 / 2
		Selenium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0 / 1	0 / 1	1 / 1	0 / 1	0 / 1	0 / 1	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Atikokan Thermal Generating Station						J.C. Keith TGS
		NAME OF EFFLUENT STREAM:	Intake	Boiler Blowdown	Furnace Ash Water Treatment	Oily Water Separator	Neutralization Sump	Outfall	Ash Lagoon Discharge
ANALYTICAL TEST GROUP		PARAMETERS							
12	Mercury	Mercury	0 / 1	0 / 1	0 / 1	-	0 / 1	0 / 1	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	-	-	-	-	-	-	0 / 2
15	Sulphide	Sulphide	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,1,2-Trichloroethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,1-Dichloroethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,1-Dichloroethylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,2-Dichlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,2-Dichloropropane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,3-Dichlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		1,4-Dichlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Bromoform	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Bromomethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Carbon tetrachloride	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Chlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Chloroform	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Chloromethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Cis-1,3-Dichloropropylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Dibromochloromethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Ethylene dibromide	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Methylene chloride	0 / 1	-	0 / 1	0 / 1	-	0 / 1	2 / 2
		Tetrachloroethylene (Perchloroethylene)	-	-	-	-	-	-	0 / 2
		Trans-1,2-Dichloroethylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Trans-1,3-Dichloropropylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Trichloroethylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Trichlorofluoromethane	-	-	-	-	-	-	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
		Styrene	-	-	-	-	-	-	0 / 2
		Toluene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2
		o-Xylene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2
		m-Xylene and p-Xylene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Atikokan Thermal Generating Station						J.C. Keith TGS
	NAME OF EFFLUENT STREAM:	Intake	Boiler Blowdown	Furnace Ash Water Treatment	Oily Water Separator	Neutralization Sump	Outfall	Ash Lagoon Discharge
ANALYTICAL TEST GROUP	PARAMETERS							
19 Extractables, Base Neutral	Acenaphthene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	5-nitro Acenaphthene	-	-	-	-	-	-	-
	Acenaphthylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Anthracene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benz(a)anthracene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benzo(a)pyrene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benzo(b)fluoranthene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benzo(g,h,i)perylene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benzo(k)fluoranthene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Biphenyl	-	-	-	-	-	-	0 / 2
	Camphene	-	-	-	-	-	-	0 / 2
	1-Chloronaphthalene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2-Chloronaphthalene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Chrysene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Dibenz(a,h)anthracene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Fluoranthene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Fluorene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Indeno(1,2,3-cd)pyrene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Indole	-	-	-	-	-	-	0 / 2
	1-Methylnaphthalene	-	-	-	-	-	-	0 / 2
	2-Methylnaphthalene	-	-	-	-	-	-	0 / 2
	Naphthalene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Perylene	-	-	-	-	-	-	0 / 2
	Phenanthrene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Pyrene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Benzyl butyl phthalate	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Bis(2-ethylhexyl) phthalate	0 / 1	-	0 / 1	0 / 1	-	0 / 1	2 / 2
	Di-n-butyl phthalate	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	4-Bromophenyl phenyl ether	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	4-Chlorophenyl phenyl ether	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Bis(2-chloroisopropyl)ether	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Bis(2-chloroethyl)ether	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Diphenyl ether	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,6-Dinitrotoluene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Bis(2-chloroethoxy)methane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Diphenylamine	-	-	-	-	-	-	0 / 2
	N-Nitrosodiphenylamine	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	N-Nitrosodi-n-propylamine	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Atikokan Thermal Generating Station						J.C. Keith TGS
	NAME OF EFFLUENT STREAM:	Intake	Boiler Blowdown	Furnace Ash Water Treatment	Oily Water Separator	Neutralization Sump	Outfall	Ash Lagoon Discharge
ANALYTICAL TEST GROUP	PARAMETERS							
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,3,4,6-Tetrachlorophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,3,5,6-Tetrachlorophenol	-	-	-	-	-	-	0 / 2
	2,3,4-Trichlorophenol	-	-	-	-	-	-	0 / 2
	2,3,5-Trichlorophenol	-	-	-	-	-	-	0 / 2
	2,4,5-Trichlorophenol	-	-	-	-	-	-	0 / 2
	2,4,6-Trichlorophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,4-Dimethyl phenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,4-Dinitrophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,4-Dichlorophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2,6-Dichlorophenol	-	-	-	-	-	-	0 / 2
	4,6-Dinitro-o-cresol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	2-Chlorophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	4-Chloro-3-methylphenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	4-Nitrophenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	m-Cresol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	o-Cresol'	-	-	-	-	-	-	0 / 2
	p-Cresol	-	-	-	-	-	-	0 / 2
	Pentachlorophenol	-	-	-	-	-	-	0 / 2
	Phenol	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	1,2,3,5-Tetrachlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	1,2,4,5-Tetrachlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	1,2,3-Trichlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	1,2,4-Trichlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	2 / 2
	2,4,5-Trichlorotoluene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Hexachlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Hexachlorobutadiene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	1 / 2
	Hexachlorocyclopentadiene	-	-	-	-	-	-	0 / 2
	Hexachloroethane	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
	Octachlorostyrene	-	-	-	-	-	-	-
	Pentachlorobenzene	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Atikokan Thermal Generating Station						J.C. Keith TGS
		NAME OF EFFLUENT STREAM:	Intake	Boiler Blowdown	Furnace Ash Water Treatment	Oily Water Separator	Neutralization Sump	Outfall	Ash Lagoon Discharge
ANALYTICAL TEST GROUP		PARAMETERS							
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	-	-	-	-	-	-	0 / 2
		Octachlorodibenzo-p-dioxin	-	-	-	-	-	-	0 / 2
		Octachlorodibenzofuran	-	-	-	-	-	-	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	-	-	-	-	-	-	0 / 2
		Total heptachlorinated dibenzofurans	-	-	-	-	-	-	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	-	-	-	-	-	-	0 / 2
		Total hexachlorinated dibenzofurans	-	-	-	-	-	-	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	-	-	-	-	-	-	0 / 2
		Total pentachlorinated dibenzofurans	-	-	-	-	-	-	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	-	-	-	-	-	-	0 / 2
		Total tetrachlorinated dibenzofurans	-	-	-	-	-	-	0 / 2
25	Solvent Extractables	Oil and grease	0 / 1	-	0 / 1	0 / 1	-	0 / 1	0 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 1	-	0 / 1	0 / 1	-	0 / 1	1 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lakeview Thermal Generation Station											
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Coal Pile Drainage Pond	Bottom Ash Filtration Plant	Boiler Blowdown	Oily Water Separator	Ash Settling Pond Overflow	Coal Pile Runoff Overflow	Switch Yard Drainage	Unit Transformer Yard Drainage	South Yard Drain	North Yard Drain
ANALYTICAL TEST GROUP	PARAMETERS												
1 Chemical Oxygen Demand	Chemical oxygen demand (COD)	3/3	3/3	3/3	3/3	1/3	2/2	2/2	1/1	1/1	1/1	2/2	1/1
2 Total cyanide	Total cyanide	0/3	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
3 Hydrogen ion (pH)	Hydrogen ion (pH)	8	8	6-9	9	7-8	7	9	-	8	8	8	8
4a Nitrogen	Ammonia plus Ammonium	0/3	0/3	0/3	0/3	0/3	1/3	0/2	0/1	0/1	0/2	0/2	1/1
	Total Kjeldahl nitrogen	1/3	0/3	0/3	1/3	0/3	1/3	1/2	1/1	1/1	0/2	2/2	1/1
4b	Nitrate + Nitrite	3/3	3/3	3/3	3/3	0/3	1/3	2/2	-	1/1	2/2	2/2	1/1
5a Organic carbon	Dissolved organic carbon (DOC)	3/3	3/3	1/3	3/3	1/3	3/3	2/2	0/1	1/1	1/2	2/2	1/1
5b	Total organic carbon (TOC)	1/3	1/3	0/3	1/3	1/3	1/3	0/2	0/1	1/2	0/2	0/2	1/1
6 Total phosphorus	Total phosphorus	0/3	0/3	0/3	1/3	2/3	0/3	2/2	1/1	0/1	0/2	0/2	1/1
8 Suspended solids (TSS/VSS)	Total suspended solids (TSS)	2/3	1/3	1/3	2/3	0/3	3/3	2/2	-	1/1	2/2	1/2	1/1
	Volatile suspended solids (VSS)	0/2	0/2	0/2	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	1/1
9 Total metals	Aluminum	3/3	3/3	1/3	3/3	1/3	0/2	2/2	1/1	1/1	2/2	1/2	1/1
	Beryllium	1/3	1/3	0/3	0/3	0/3	0/2	0/2	1/1	0/1	0/2	0/2	0/1
	Cadmium	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Chromium	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Cobalt	1/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Copper	1/3	1/3	0/3	2/3	3/3	2/2	1/2	1/1	1/1	2/2	0/2	1/1
	Lead	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	1/1
	Molybdenum	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	1/1
	Nickel	0/3	0/3	2/3	1/3	2/3	0/2	0/2	1/1	0/1	0/2	0/2	0/1
	Silver	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Thallium	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Vanadium	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Zinc	1/3	1/3	2/3	3/3	2/3	2/2	1/2	1/1	1/1	1/2	0/2	1/1
10 Hydrides	Antimony	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/1	1/1	0/2	0/2	0/1
	Arsenic	0/3	0/3	0/3	3/3	0/3	0/2	2/2	0/1	0/1	0/2	0/2	1/1
	Selenium	0/3	0/3	2/3	1/3	0/3	0/2	0/2	0/1	0/1	0/2	0/2	0/1
11 Chromium (Hexavalent)	Chromium (Hexavalent)	0/1	0/1	0/1	0/1	0/1	1/1	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lakeview Thermal Generation Station											
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Coal Pile Drainage Pond	Bottom Ash Filtration Plant	Boiler Blowdown	Oily Water Separator	Ash Settling Pond Overflow	Coal Pile Runoff Overflow	Switch Yard Drainage	Unit Transformer Yard Drainage	South Yard Drain	North Yard Drain
ANALYTICAL TEST GROUP	PARAMETERS												
12 Mercury	Mercury	0/3	0/3	1/3	0/3	0/3	0/2	0/2	1/1	0/1	0/2	0/2	1/1
14 Phenolics (4AAP)	Phenolics (4AAP)	2/3	1/3	1/3	2/3	2/3	3/3	1/2	1/1	0/1	0/2	0/2	1/1
15 Sulphide	Sulphide	0/3	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,1,2-Trichloroethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,1-Dichloroethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,1-Dichloroethylene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,2-Dichlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,2-Dichloroethane (Ethylene dichloride)	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,2-Dichloropropane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,3-Dichlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,4-Dichlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Bromoform	0/2	0/2	0/2	0/3	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Bromomethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Carbon tetrachloride	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Chlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Chloroform	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Chloromethane	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Cis-1,3-Dichloropropylene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Dibromochloromethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Ethylene dibromide	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Methylene chloride	0/3	1/3	0/3	0/3	1/2	1/3	1/2	1/1	1/1	0/2	1/2	1/1
	Tetrachloroethylene (Perchloroethylene)	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Trans-1,2-Dichloroethylene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Trans-1,3-Dichloropropylene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Trichloroethylene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Trichlorofluoromethane	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	Vinyl chloride (Chloroethylene)	0/2	0/2	0/2	0/3	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
17 Volatiles, Non-Halogenated	Benzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Styrene	0/2	0/2	0/2	0/2	0/2	0/2	-	-	-	-	-	-
	Toluene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	o-Xylene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	m-Xylene and p-Xylene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lakeview Thermal Generation Station											
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Coal Pile Drainage Pond	Bottom Ash Filtration Plant	Boiler Blowdown	Oily Water Separator	Ash Settling Pond Overflow	Coal Pile Runoff Overflow	Switch Yard Drainage	Unit Transformer Yard Drainage	South Yard Drain	North Yard Drain
ANALYTICAL TEST GROUP	PARAMETERS												
19 Extractables, Base Neutral	Acenaphthene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	5-nitro Acenaphthene	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Anthracene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benz(a)anthracene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benzo(a)pyrene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benzo(b)fluoranthene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benzo(g,h,i)perylene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benzo(k)fluoranthene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Biphenyl	-	-	-	-	-	-	-	-	-	-	-	-
	Camphene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	1-Chloronaphthalene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	2-Chloronaphthalene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Chrysene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Dibenz(a,h)anthracene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Fluoranthene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Fluorene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Indeno(1,2,3-cd)pyrene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Indole	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	1-Methylnaphthalene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	2-Methylnaphthalene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Naphthalene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Perylene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Phenanthrene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Pyrene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Benzyl butyl phthalate	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Bis(2-ethylhexyl) phthalate	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Di-n-butyl phthalate	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	4-Bromophenyl phenyl ether	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	4-Chlorophenyl phenyl ether	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Bis(2-chloroisopropyl)ether	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Bis(2-chloroethyl)ether	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Diphenyl ether	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	2,6-Dinitrotoluene	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Bis(2-chloroethoxy)methane	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	Diphenylamine	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	N-Nitrosodiphenylamine	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-
	N-Nitrosodi-n-propylamine	0 / 3	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2	0 / 2	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lakeview Thermal Generation Station											
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Coal Pile Drainage Pond	Bottom Ash Filtration Plant	Boiler Blowdown	Oily Water Separator	Ash Settling Pond Overflow	Coal Pile Runoff Overflow	Switch Yard Drainage	Unit Transformer Yard Drainage	South Yard Drain	North Yard Drain
ANALYTICAL TEST GROUP	PARAMETERS												
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/3	0/3	0/1	0/3	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,3,4,6-Tetrachlorophenol	0/2	0/2	0/1	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,3,5,6-Tetrachlorophenol	0/2	0/2	-	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,3,4-Trichlorophenol	0/2	0/2	-	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,3,5-Trichlorophenol	0/2	0/2	-	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,4,5-Trichlorophenol	0/2	0/2	-	0/2	0/2	0/2	0/2	-	0/1	0/2	0/2	0/1
	2,4,6-Trichlorophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	2,4-Dimethyl phenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	2,4-Dinitrophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	2,4-Dichlorophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	2,6-Dichlorophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	4,6-Dinitro-o-cresol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	2-Chlorophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	4-Chloro-3-methylphenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	4-Nitrophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	m-Cresol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	o-Cresol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	p-Cresol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	Pentachlorophenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
	Phenol	0/3	0/3	0/1	0/3	0/2	0/3	0/2	-	0/1	0/2	0/2	0/1
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	1,2,3,5-Tetrachlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/3	0/1	0/1	0/2	0/2	0/1
	1,2,4,5-Tetrachlorobenzene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	1,2,3-Trichlorobenzene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
	1,2,4-Trichlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	1/1
	2,4,5-Trichlorotoluene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Hexachlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Hexachlorobutadiene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/2	0/2	0/1
	Hexachlorocyclopentadiene	-	-	-	-	-	-	-	-	0/1	-	-	0/1
	Hexachloroethane	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/1	0/1	0/1
	Octachlorostyrene	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	0/1	0/1	0/1	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lakeview Thermal Generation Station											
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Coal Pile Drainage Pond	Bottom Ash Filtration Plant	Boiler Blowdown	Oily Water Separator	Ash Settling Pond Overflow	Coal Pile Runoff Overflow	Switch Yard Drainage	Unit Transformer Yard Drainage	South Yard Drain	North Yard Drain
ANALYTICAL TEST GROUP		PARAMETERS												
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Octachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Octachlorodibenzofuran	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total heptachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total heptachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total hexachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total hexachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total pentachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total pentachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total tetrachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
		Total tetrachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/2	0/2	0/1
25	Solvent Extractables	Oil and grease	1/3	2/3	2/3	0/3	1/2	3/3	1/2	1/1	0/1	2/2	0/2	1/1
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/3	0/3	0/3	0/3	0/2	0/3	0/2	0/1	1/1	2/2	1/2	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lambton Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Ash Filter Plant	Boiler Blowdown	Lake Lambton	Outfall
ANALYTICAL TEST GROUP		PARAMETERS					
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
2	Total cyanide	Total cyanide	0 / 1	0 / 1	-	0 / 1	0 / 1
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	8	8	6 - 7	8
4a	Nitrogen	Ammonia plus Ammonium	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3
		Total Kjeldahl nitrogen	0 / 1	0 / 2	0 / 2	0 / 1	0 / 1
4b		Nitrate + Nitrite	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3
5a	Organic carbon	Dissolved organic carbon (DOC)	3 / 3	3 / 3	0 / 1	3 / 3	3 / 3
5b		Total organic carbon (TOC)	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3
6	Total phosphorus	Total phosphorus	0 / 1	0 / 1	1 / 1	0 / 1	0 / 1
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	1 / 1	0 / 1	0 / 1	0 / 1	1 / 1
		Volatile suspended solids (VSS)	-	-	-	-	-
9	Total metals	Aluminum	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
		Beryllium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Cadmium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Chromium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Cobalt	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Copper	0 / 1	0 / 1	1 / 1	1 / 1	0 / 1
		Lead	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Molybdenum	0 / 1	1 / 1	1 / 1	1 / 1	0 / 1
		Nickel	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Silver	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Thallium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Vanadium	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Zinc	1 / 1	1 / 1	3 / 3	1 / 1	1 / 1
10	Hydrides	Antimony	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
		Arsenic	-	-	-	-	-
		Selenium	-	-	-	-	-
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lambton Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Ash Filter Plant	Boiler Blowdown	Lake Lambton	Outfall
ANALYTICAL TEST GROUP		PARAMETERS					
12	Mercury	Mercury	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
14	Phenolics (4AAP)	Phenolics (4AAP)	-	-	-	-	-
15	Sulphide	Sulphide	0 / 3	0 / 3	-	0 / 3	0 / 3
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,1,2-Trichloroethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,1-Dichloroethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,1-Dichloroethylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2-Dichlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2-Dichloroethane (Ethylene dichloride)	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2-Dichloropropane	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,3-Dichlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,4-Dichlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Bromoform	0 / 1	0 / 1	-	0 / 1	0 / 1
		Bromomethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		Carbon tetrachloride	0 / 1	0 / 1	-	0 / 1	0 / 1
		Chlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Chloroform	0 / 1	0 / 1	-	0 / 1	0 / 1
		Chloromethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		Cis-1,3-Dichloropropylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Dibromochloromethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		Ethylene dibromide	0 / 1	0 / 1	-	0 / 1	0 / 1
		Methylene chloride	0 / 1	0 / 1	-	0 / 1	0 / 1
		Tetrachloroethylene (Perchloroethylene)	0 / 1	0 / 1	-	0 / 1	0 / 1
		Trans-1,2-Dichloroethylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Trans-1,3-Dichloropropylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Trichloroethylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Trichlorofluoromethane	-	-	-	-	-
		Vinyl chloride (Chloroethylene)	0 / 1	0 / 1	-	0 / 1	0 / 1
17	Volatiles, Non-Halogenated	Benzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Styrene	-	-	-	-	-
		Toluene	0 / 1	0 / 1	-	0 / 1	0 / 1
		o-Xylene	0 / 1	0 / 1	-	0 / 1	0 / 1
		m-Xylene and p-Xylene	0 / 1	0 / 1	-	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lambton Thermal Generating Station				
	NAME OF EFFLUENT STREAM:	Intake	Ash Filter Plant	Boiler Blowdown	Lake Lambton	Outfall
ANALYTICAL TEST GROUP	PARAMETERS					
19 Extractables, Base Neutral	Acenaphthene	-	-	-	-	-
	5-nitro Acenaphthene	-	-	-	-	-
	Acenaphthylene	0 / 1	0 / 1	-	0 / 1	-
	Anthracene	0 / 1	0 / 1	-	0 / 1	-
	Benz(a)anthracene	0 / 1	0 / 1	-	0 / 1	-
	Benzo(a)pyrene	0 / 1	0 / 1	-	0 / 1	-
	Benzo(b)fluoranthene	0 / 1	0 / 1	-	0 / 1	-
	Benzo(g,h,i)perylene	0 / 1	0 / 1	-	0 / 1	-
	Benzo(k)fluoranthene	0 / 1	0 / 1	-	0 / 1	-
	Biphenyl	-	-	-	-	-
	Camphene	0 / 1	0 / 1	-	0 / 1	-
	1-Chloronaphthalene	0 / 1	0 / 1	-	0 / 1	-
	2-Chloronaphthalene	0 / 1	0 / 1	-	0 / 1	-
	Chrysene	0 / 1	0 / 1	-	0 / 1	-
	Dibenz(a,h)anthracene	0 / 1	0 / 1	-	0 / 1	-
	Fluoranthene	0 / 1	0 / 1	-	0 / 1	-
	Fluorene	0 / 1	0 / 1	-	0 / 1	-
	Indeno(1,2,3-cd)pyrene	0 / 1	0 / 1	-	0 / 1	-
	Indole	-	-	-	-	-
	1-Methylnaphthalene	-	-	-	-	-
	2-Methylnaphthalene	-	-	-	-	-
	Naphthalene	-	-	-	-	-
	Perylene	0 / 1	0 / 1	-	0 / 1	-
	Phenanthrene	0 / 1	0 / 1	-	0 / 1	-
	Pyrene	0 / 1	0 / 1	-	0 / 1	-
	Benzyl butyl phthalate	0 / 1	0 / 1	-	0 / 1	-
	Bis(2-ethylhexyl) phthalate	0 / 1	0 / 1	-	0 / 1	-
	Di-n-butyl phthalate	0 / 1	0 / 1	-	0 / 1	-
	4-Bromophenyl phenyl ether	0 / 1	0 / 1	-	0 / 1	0 / 1
	4-Chlorophenyl phenyl ether	0 / 1	0 / 1	-	0 / 1	0 / 1
	Bis(2-chloroisopropyl)ether	0 / 1	0 / 1	-	0 / 1	0 / 1
	Bis(2-chloroethyl)ether	0 / 1	0 / 1	-	0 / 1	0 / 1
	Diphenyl ether	-	-	-	-	-
	2,4-Dinitrotoluene	0 / 1	0 / 1	-	0 / 1	0 / 1
	2,6-Dinitrotoluene	0 / 1	0 / 1	-	0 / 1	0 / 1
	Bis(2-chloroethoxy)methane	0 / 1	0 / 1	-	0 / 1	0 / 1
	Diphenylamine	-	-	-	-	-
	N-Nitrosodiphenylamine	0 / 1	0 / 1	-	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lambton Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Ash Filter Plant	Boiler Blowdown	Lake Lambton	Outfall
ANALYTICAL TEST GROUP		PARAMETERS					
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		2,3,4,6-Tetrachlorophenol	-	-	-	-	-
		2,3,5,6-Tetrachlorophenol	-	-	-	-	-
		2,3,4-Trichlorophenol	-	-	-	-	-
		2,3,5-Trichlorophenol	-	-	-	-	-
		2,4,5-Trichlorophenol	-	-	-	-	-
		2,4,6-Trichlorophenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		2,4-Dimethyl phenol	0 / 1	0 / 1	-	-	-
		2,4-Dinitrophenol	0 / 1	0 / 1	-	-	-
		2,4-Dichlorophenol	0 / 1	0 / 1	-	-	-
		2,6-Dichlorophenol	-	-	-	-	-
		4,6-Dinitro-o-cresol	0 / 1	0 / 1	-	0 / 1	0 / 1
		2-Chlorophenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		4-Chloro-3-methylphenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		4-Nitrophenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		m-Cresol	-	-	-	-	-
		o-Cresol	-	-	-	-	-
		p-Cresol	-	-	-	-	-
		Pentachlorophenol	0 / 1	0 / 1	-	0 / 1	0 / 1
		Phenol	0 / 1	0 / 1	-	0 / 1	0 / 1
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2,3,5-Tetrachlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2,4,5-Tetrachlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2,3-Trichlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		1,2,4-Trichlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		2,4,5-Trichlorotoluene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Hexachlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Hexachlorobutadiene	0 / 1	0 / 1	-	0 / 1	0 / 1
		Hexachlorocyclopentadiene	-	-	-	-	-
		Hexachloroethane	0 / 1	0 / 1	-	0 / 1	0 / 1
		Octachlorostyrene	-	-	-	-	-
		Pentachlorobenzene	0 / 1	0 / 1	-	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lambton Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Ash Filter Plant	Boiler Blowdown	Lake Lambton	Outfall
ANALYTICAL TEST GROUP		PARAMETERS					
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	-	-	-	-	-
		Octachlorodibenzo-p-dioxin	-	-	-	-	-
		Octachlorodibenzofuran	-	-	-	-	-
		Total heptachlorinated dibenzo-p-dioxins	-	-	-	-	-
		Total heptachlorinated dibenzofurans	-	-	-	-	-
		Total hexachlorinated dibenzo-p-dioxins	-	-	-	-	-
		Total hexachlorinated dibenzofurans	-	-	-	-	-
		Total pentachlorinated dibenzo-p-dioxins	-	-	-	-	-
		Total pentachlorinated dibenzofurans	-	-	-	-	-
		Total tetrachlorinated dibenzo-p-dioxins	-	-	-	-	-
		Total tetrachlorinated dibenzofurans	-	-	-	-	-
25	Solvent Extractables	Oil and grease	1 / 1	0 / 1	-	1 / 1	1 / 1
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 1	0 / 1	-	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lennox Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Oily Water Treatment Pond Discharge	West Interceptor	East Interceptor	Air Pre-heaters Wash Lagoon
ANALYTICAL TEST GROUP		PARAMETERS					
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1/2	2/2	2/2	1/2	2/2
2	Total cyanide	Total cyanide	0/2	0/2	0/2	0/2	0/2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	8	7-8	6-7	7
4a	Nitrogen	Ammonia plus Ammonium	0/2	0/2	0/2	0/2	1/2
		Total Kjeldahl nitrogen	0/2	2/2	0/2	0/2	1/2
4b		Nitrate + Nitrite	2/2	2/2	2/2	2/2	2/2
5a	Organic carbon	Dissolved organic carbon (DOC)	2/2	2/2	2/2	2/2	2/2
5b		Total organic carbon (TOC)	0/2	0/2	0/2	0/2	0/2
6	Total phosphorus	Total phosphorus	1/2	0/2	0/2	0/2	0/2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0/2	0/2	0/2	1/2	0/2
		Volatile suspended solids (VSS)	0/2	0/2	0/2	0/2	0/2
9	Total metals	Aluminum	0/2	0/2	2/2	0/2	0/2
		Beryllium	1/2	1/2	0/2	1/2	1/2
		Cadmium	0/2	1/2	0/2	0/2	0/2
		Chromium	0/2	0/2	0/2	0/2	0/2
		Cobalt	0/2	0/2	1/2	0/2	0/2
		Copper	0/2	0/2	1/2	0/2	0/2
		Lead	0/2	0/2	0/2	0/2	0/2
		Molybdenum	0/2	0/2	0/2	0/2	0/2
		Nickel	0/2	0/2	0/2	0/2	1/2
		Silver	0/2	0/2	0/2	0/2	0/2
		Thallium	0/2	0/2	0/2	0/2	0/2
		Vanadium	0/2	0/2	0/2	0/2	2/2
		Zinc	1/2	1/2	2/2	2/2	0/2
10	Hydrides	Antimony	0/2	0/2	0/2	0/2	0/2
		Arsenic	0/2	0/2	0/2	0/2	0/2
		Selenium	0/2	0/2	0/2	0/2	0/2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lennox Thermal Generating Station				
	NAME OF EFFLUENT STREAM:	Intake	Oily Water Treatment Pond Discharge	West Interceptor	East Interceptor	Air Pre-heaters Wash Lagoon
ANALYTICAL TEST GROUP	PARAMETERS					
12 Mercury	Mercury	1/2	0/2	0/2	0/2	0/2
14 Phenolics (4AAP)	Phenolics (4AAP)	2/2	2/2	2/2	1/2	2/2
15 Sulphide	Sulphide	0/2	0/2	0/2	0/2	0/2
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/2	0/2	0/2	0/2	0/2
	1,1,2-Trichloroethane	0/2	0/2	0/2	0/2	0/2
	1,1-Dichloroethane	0/2	0/2	0/2	0/2	0/2
	1,1-Dichloroethylene	0/2	0/2	0/2	0/2	0/2
	1,2-Dichlorobenzene	0/2	0/2	0/2	0/2	0/2
	1,2-Dichloroethane (Ethylene dichloride)	0/2	0/2	0/2	0/2	0/2
	1,2-Dichloropropane	0/2	0/2	0/2	0/2	0/2
	1,3-Dichlorobenzene	0/2	0/2	0/2	0/2	0/2
	1,4-Dichlorobenzene	0/2	0/2	0/2	0/2	0/2
	Bromoform	0/2	0/2	0/2	0/2	0/2
	Bromomethane	0/2	0/2	0/2	0/2	0/2
	Carbon tetrachloride	0/2	0/2	0/2	0/2	0/2
	Chlorobenzene	0/2	0/2	0/2	0/2	0/2
	Chloroform	0/2	0/2	0/2	0/2	0/2
	Chloromethane	0/2	0/2	0/2	0/2	0/2
	Cis-1,3-Dichloropropylene	0/2	0/2	0/2	0/2	0/2
	Dibromochloromethane	0/2	0/2	0/2	0/2	0/2
	Ethylene dibromide	0/2	0/2	0/2	0/2	0/2
	Methylene chloride	0/2	1/2	1/2	1/2	2/2
	Tetrachloroethylene (Perchloroethylene)	0/2	0/2	0/2	0/2	0/2
	Trans-1,2-Dichloroethylene	0/2	0/2	0/2	0/2	0/2
	Trans-1,3-Dichloropropylene	0/2	0/2	0/2	0/2	0/2
	Trichloroethylene	0/2	0/2	0/2	0/2	0/2
	Trichlorofluoromethane	0/2	0/2	1/2	0/2	1/2
	Vinyl chloride (Chloroethylene)	0/2	0/2	0/2	0/2	0/2
17 Volatiles, Non-Halogenated	Benzene	0/2	0/2	0/2	0/2	0/2
	Styrene	0/2	0/2	0/2	0/2	0/2
	Toluene	0/2	0/2	0/2	0/2	0/2
	o-Xylene	0/2	0/2	0/2	0/2	0/2
	m-Xylene and p-Xylene	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Lennox Thermal Generating Station				
	NAME OF EFFLUENT STREAM:	Intake	Oily Water Treatment Pond Discharge	West Interceptor	East Interceptor	Air Pre-heaters Wash Lagoon
ANALYTICAL TEST GROUP	PARAMETERS					
19 Extractables, Base Neutral	Acenaphthene	0/2	0/2	0/2	0/2	0/2
	5-nitro Acenaphthene	-	-	-	-	-
	Acenaphthylene	0/2	0/2	0/2	0/2	0/2
	Anthracene	0/2	0/2	0/2	0/2	0/2
	Benz(a)anthracene	0/2	0/2	0/2	0/2	0/2
	Benzo(a)pyrene	0/2	0/2	0/2	0/2	0/2
	Benzo(b)fluoranthene	0/2	0/2	0/2	0/2	0/2
	Benzo(g,h,i)perylene	0/2	0/2	0/2	0/2	0/2
	Benzo(k)fluoranthene	0/2	0/2	0/2	0/2	0/2
	Biphenyl	-	-	-	-	-
	Camphene	0/2	0/2	0/2	0/2	0/2
	1-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2
	2-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2
	Chrysene	0/2	0/2	0/2	0/2	0/2
	Dibenz(a,h)anthracene	0/2	0/2	0/2	0/2	0/2
	Fluoranthene	0/2	0/2	0/2	0/2	0/2
	Fluorene	0/2	0/2	0/2	0/2	0/2
	Indeno(1,2,3-cd)pyrene	0/2	0/2	0/2	0/2	0/2
	Indole	0/2	0/2	0/2	0/2	0/2
	1-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2
	2-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2
	Naphthalene	0/2	0/2	0/2	0/2	0/2
	Perylene	0/2	0/2	0/2	0/2	0/2
	Phenanthrene	0/2	0/2	0/2	0/2	0/2
	Pyrene	0/2	0/2	0/2	0/2	0/2
	Benzyl butyl phthalate	0/2	0/2	0/2	0/2	0/2
	Bis(2-ethylhexyl) phthalate	0/2	0/2	0/2	0/2	0/2
	Di-n-butyl phthalate	0/2	0/2	0/2	0/2	0/2
	4-Bromophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2
	4-Chlorophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroisopropyl)ether	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroethyl)ether	0/2	0/2	0/2	0/2	0/2
	Diphenyl ether	-	-	-	-	-
	2,4-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2
	2,6-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroethoxy)methane	0/2	0/2	0/2	0/2	0/2
	Diphenylamine	0/2	0/2	0/2	0/2	0/2
	N-Nitrosodiphenylamine	0/2	0/2	0/2	0/2	0/2
	N-Nitrosodi-n-propylamine	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lennox Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Oily Water Treatment Pond Discharge	West Interceptor	East Interceptor	Air Pre-heaters Wash Lagoon
ANALYTICAL TEST GROUP		PARAMETERS					
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,6-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dimethyl phenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dinitrophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,6-Dichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		4,6-Dinitro-o-cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2-Chlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		4-Chloro-3-methylphenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		4-Nitrophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		m-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		o-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		p-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Pentachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Phenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,3,5-Tetrachlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,4,5-Tetrachlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,3-Trichlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,4-Trichlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,5-Trichlorotoluene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorobutadiene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorocyclopentadiene	-	-	-	-	-
		Hexachloroethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Octachlorostyrene	-	-	-	-	-
		Pentachlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Lennox Thermal Generating Station				
		NAME OF EFFLUENT STREAM:	Intake	Oily Water Treatment Pond Discharge	West Interceptor	East Interceptor	Air Pre-heaters Wash Lagoon
ANALYTICAL TEST GROUP		PARAMETERS					
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2
		Octachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2
		Octachlorodibenzofuran	0/2	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzo-p-dioxins	0/1	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2
25	Solvent Extractables	Oil and grease	0/2	0/2	0/2	0/2	0/2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Nanticoke Thermal Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Ash Lagoon Effluent	Boiler Blowdown	Unit 2 Floor Drain Sump	North Yard Drain	Coal Pile Runoff Overflow	Water Treatment Plant Neutralization Sump	Condensor Cooling Water
ANALYTICAL TEST GROUP		PARAMETERS								
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	3/3	1/3	1/3	2/2	2/2	2/2	1/1	1/1
2	Total cyanide	Total cyanide	0/3	0/3	0/2	0/2	0/2	0/2	-	-
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	11	6-8	7-8	8	8	-	-
4a	Nitrogen	Ammonia plus Ammonium	0/3	0/3	0/3	0/2	0/2	0/2	1/1	0/1
		Total Kjeldahl nitrogen	0/3	1/3	0/3	0/3	0/2	0/2	-	-
4b		Nitrate + Nitrite	3/3	3/3	0/3	2/2	2/2	2/2	1/1	1/1
5a	Organic carbon	Dissolved organic carbon (DOC)	3/3	2/3	2/3	2/2	2/2	2/2	1/1	1/1
5b		Total organic carbon (TOC)	1/3	1/3	0/3	0/3	1/2	1/2	0/1	0/1
6	Total phosphorus	Total phosphorus	0/3	0/3	1/3	0/2	0/2	1/2	0/1	0/1
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0/3	0/3	0/3	2/2	0/2	1/2	1/1	0/1
		Volatile suspended solids (VSS)	0/2	0/2	0/2	0/2	0/2	2/2	-	-
9	Total metals	Aluminum	3/3	3/3	2/3	2/2	2/2	2/2	1/1	1/1
		Beryllium	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1
		Cadmium	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1
		Chromium	1/3	3/3	1/3	2/2	1/2	0/2	1/1	0/1
		Cobalt	1/3	1/3	1/3	2/3	1/3	1/3	0/1	0/1
		Copper	2/3	2/3	3/3	2/2	1/2	2/2	1/1	0/1
		Lead	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1
		Molybdenum	1/3	3/3	1/3	2/2	1/2	1/2	1/1	0/1
		Nickel	0/3	0/3	1/3	0/2	0/2	0/2	1/1	0/1
		Silver	0/3	0/3	0/3	0/2	0/2	0/2	-	-
		Thallium	0/3	0/3	0/3	0/2	0/2	0/2	0/1	0/1
		Vanadium	1/3	3/3	0/3	0/2	0/2	0/2	0/1	0/1
		Zinc	2/3	3/3	3/3	2/2	2/2	2/2	1/1	1/1
10	Hydrides	Antimony	0/3	3/3	0/3	0/2	0/2	0/2	0/1	0/1
		Arsenic	0/3	0/3	0/3	0/2	0/2	0/2	1/1	0/1
		Selenium	0/3	3/3	0/3	0/2	0/2	1/2	0/1	0/1
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0/1	1/1	0/1	-	-	-	1/1	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Nanticoke Thermal Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Ash Lagoon Effluent	Boiler Blowdown	Unit 2 Floor Drain Sump	North Yard Drain	Coal Pile Runoff Overflow	Water Treatment Plant Neutralization Sump	Condensor Cooling Water
ANALYTICAL TEST GROUP		PARAMETERS								
12	Mercury	Mercury	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1
14	Phenolics (4AAP)	Phenolics (4AAP)	0 / 3	0 / 3	1 / 3	0 / 2	0 / 2	1 / 2	1 / 1	0 / 1
15	Sulphide	Sulphide	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,1,2-Trichloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,1-Dichloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,1-Dichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,2-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,2-Dichloroethane (Ethylene dichloride)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,2-Dichloropropane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,3-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		1,4-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Bromoform	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Bromomethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
		Carbon tetrachloride	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Chlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Chloroform	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Chloromethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
		Cis-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Dibromochloromethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Ethylene dibromide	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Methylene chloride	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	1 / 1
		Tetrachloroethylene (Perchloroethylene)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Trans-1,2-Dichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Trans-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Trichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	-
		Trichlorofluoromethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
		Vinyl chloride (Chloroethylene)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
17	Volatiles, Non-Halogenated	Benzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Styrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		Toluene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		o-Xylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
		m-Xylene and p-Xylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Nanticoke Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Lagoon Effluent	Boiler Blowdown	Unit 2 Floor Drain Sump	North Yard Drain	Coal Pile Runoff Overflow	Water Treatment Plant Neutralization Sump	Condensor Cooling Water
ANALYTICAL TEST GROUP	PARAMETERS								
19 Extractables, Base Neutral	Acenaphthene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	5-nitro Acenaphthene	-	-	-	-	-	-	-	-
	Acenaphthylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Anthracene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benz(a)anthracene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benzo(a)pyrene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benzo(b)fluoranthene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benzo(g,h,i)perylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benzo(k)fluoranthene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Biphenyl	-	-	-	-	-	-	-	-
	Camphene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	1-Chloronaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	2-Chloronaphthalene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Chrysene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Dibenz(a,h)anthracene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Fluoranthene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Fluorene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Indeno(1,2,3-cd)pyrene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Indole	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	1-Methylnaphthalene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2-Methylnaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Naphthalene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Perylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Phenanthrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Pyrene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Benzyl butyl phthalate	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Bis(2-ethylhexyl) phthalate	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Di-n-butyl phthalate	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	4-Bromophenyl phenyl ether	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	4-Chlorophenyl phenyl ether	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Bis(2-chloroisopropyl)ether	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Bis(2-chloroethyl)ether	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Diphenyl ether	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,6-Dinitrotoluene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Bis(2-chloroethoxy)methane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Diphenylamine	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	N-Nitrosodiphenylamine	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	N-Nitrosodi-n-propylamine	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Nanticoke Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Lagoon Effluent	Boiler Blowdown	Unit 2 Floor Drain Sump	North Yard Drain	Coal Pile Runoff Overflow	Water Treatment Plant Neutralization Sump	Condensor Cooling Water
ANALYTICAL TEST GROUP	PARAMETERS								
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,3,4,6-Tetrachlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	2,4,6-Trichlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,4-Dimethyl phenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,4-Dinitrophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,4-Dichlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2,6-Dichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	4,6-Dinitro-o-cresol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	2-Chlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	4-Chloro-3-methylphenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	4-Nitrophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	m-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	o-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	p-Cresol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Pentachlorophenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Phenol	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	1,2,3,5-Tetrachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	1,2,4,5-Tetrachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	1,2,3-Trichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	1,2,4-Trichlorobenzene	2 / 3	2 / 3	2 / 2	2 / 2	2 / 2	2 / 2	-	0 / 1
	2,4,5-Trichlorotoluene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	2 / 2	-	0 / 1
	Hexachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Hexachlorobutadiene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Hexachlorocyclopentadiene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Hexachloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
	Octachlorostyrene	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Nanticoke Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Lagoon Effluent	Boiler Blowdown	Unit 2 Floor Drain Sump	North Yard Drain	Coal Pile Runoff Overflow	Water Treatment Plant Neutralization Sump	Condensor Cooling Water
ANALYTICAL TEST GROUP	PARAMETERS								
24 Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total hexachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
25 Solvent Extractables	Oil and grease	0 / 3	0 / 3	0 / 2	0 / 2	1 / 2	1 / 2	-	0 / 1
27 Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	R.L. Hearn TGS	
		NAME OF EFFLUENT STREAM:	Intake	Drainage Collection Sump
ANALYTICAL TEST GROUP		PARAMETERS		
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	2 / 2	2 / 2
2	Total cyanide	Total cyanide	0 / 2	0 / 2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	7
4a	Nitrogen	Ammonia plus Ammonium	0 / 2	1 / 2
		Total Kjeldahl nitrogen	1 / 2	2 / 2
4b		Nitrate + Nitrite	2 / 2	2 / 2
5a	Organic carbon	Dissolved organic carbon (DOC)	2 / 2	2 / 2
5b		Total organic carbon (TOC)	0 / 2	2 / 2
6	Total phosphorus	Total phosphorus	0 / 2	2 / 2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	2 / 2	2 / 2
		Volatile suspended solids (VSS)	0 / 2	0 / 2
9	Total metals	Aluminum	1 / 2	2 / 2
		Beryllium	0 / 2	0 / 2
		Cadmium	0 / 2	0 / 2
		Chromium	0 / 2	0 / 2
		Cobalt	0 / 2	0 / 2
		Copper	1 / 2	0 / 2
		Lead	0 / 2	0 / 2
		Molybdenum	2 / 2	0 / 2
		Nickel	0 / 2	0 / 2
		Silver	0 / 2	0 / 2
		Thallium	0 / 2	0 / 2
		Vanadium	0 / 2	0 / 2
		Zinc	0 / 2	2 / 2
10	Hydrides	Antimony	0 / 2	0 / 2
		Arsenic	0 / 2	0 / 2
		Selenium	0 / 2	0 / 2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	R.L. Hearn TGS	
		NAME OF EFFLUENT STREAM:	Intake	Drainage Collection Sump
ANALYTICAL TEST GROUP		PARAMETERS		
12	Mercury	Mercury	1 / 2	2 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	1 / 2	2 / 2
15	Sulphide	Sulphide	0 / 2	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 2	0 / 2
		1,1,2-Trichloroethane	0 / 2	0 / 2
		1,1-Dichloroethane	0 / 2	0 / 2
		1,1-Dichloroethylene	0 / 2	0 / 2
		1,2-Dichlorobenzene	0 / 2	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 2	0 / 2
		1,2-Dichloropropane	0 / 2	0 / 2
		1,3-Dichlorobenzene	0 / 2	0 / 2
		1,4-Dichlorobenzene	0 / 2	0 / 2
		Bromoform	0 / 2	0 / 2
		Bromomethane	0 / 2	0 / 2
		Carbon tetrachloride	0 / 2	0 / 2
		Chlorobenzene	0 / 2	0 / 2
		Chloroform	0 / 2	0 / 2
		Chloromethane	0 / 2	0 / 2
		Cis-1,3-Dichloropropylene	0 / 2	0 / 2
		Dibromochloromethane	0 / 2	0 / 2
		Ethylene dibromide	0 / 2	0 / 2
		Methylene chloride	1 / 2	2 / 2
		Tetrachloroethylene (Perchloroethylene)	0 / 2	0 / 2
		Trans-1,2-Dichloroethylene	0 / 2	0 / 2
		Trans-1,3-Dichloropropylene	0 / 2	0 / 2
		Trichloroethylene	0 / 2	0 / 2
		Trichlorofluoromethane	0 / 2	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 2	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 2	0 / 2
		Styrene	0 / 2	0 / 2
		Toluene	0 / 2	0 / 2
		o-Xylene	0 / 2	0 / 2
		m-Xylene and p-Xylene	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	R.L. Hearn TGS	
		NAME OF EFFLUENT STREAM:	Intake	Drainage Collection Sump
ANALYTICAL TEST GROUP		PARAMETERS		
19	Extractables, Base Neutral	Acenaphthene	0 / 2	0 / 2
		5-nitro Acenaphthene	-	-
		Acenaphthylene	0 / 2	0 / 2
		Anthracene	0 / 2	0 / 2
		Benz(a)anthracene	0 / 2	0 / 2
		Benzo(a)pyrene	0 / 2	0 / 2
		Benzo(b)fluoranthene	0 / 2	0 / 2
		Benzo(g,h,i)perylene	0 / 2	0 / 2
		Benzo(k)fluoranthene	0 / 2	0 / 2
		Biphenyl	0 / 2	0 / 2
		Camphene	0 / 2	0 / 2
		1-Chloronaphthalene	0 / 2	0 / 2
		2-Chloronaphthalene	0 / 2	0 / 2
		Chrysene	0 / 2	0 / 2
		Dibenz(a,h)anthracene	0 / 2	0 / 2
		Fluoranthene	0 / 2	0 / 2
		Fluorene	0 / 2	0 / 2
		Indeno(1,2,3-cd)pyrene	0 / 2	0 / 2
		Indole	0 / 2	0 / 2
		1-Methylnaphthalene	0 / 2	0 / 2
		2-Methylnaphthalene	0 / 2	1 / 2
		Naphthalene	0 / 2	1 / 2
		Perylene	0 / 2	0 / 2
		Phenanthrene	0 / 2	0 / 2
		Pyrene	0 / 2	0 / 2
		Benzyl butyl phthalate	0 / 2	0 / 2
		Bis(2-ethylhexyl) phthalate	0 / 2	0 / 2
		Di-n-butyl phthalate	0 / 2	0 / 2
		4-Bromophenyl phenyl ether	0 / 2	0 / 2
		4-Chlorophenyl phenyl ether	0 / 2	0 / 2
		Bis(2-chloroisopropyl)ether	0 / 2	0 / 2
		Bis(2-chloroethyl)ether	0 / 2	0 / 2
		Diphenyl ether	-	-
		2,4-Dinitrotoluene	0 / 2	0 / 2
		2,6-Dinitrotoluene	0 / 2	0 / 2
		Bis(2-chloroethoxy)methane	0 / 2	0 / 2
		Diphenylamine	0 / 2	0 / 2
		N-Nitrosodiphenylamine	0 / 2	0 / 2
		N-Nitrosodi-n-propylamine	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	R.L. Hearn TGS	
		NAME OF EFFLUENT STREAM:	Intake	Drainage Collection Sump
ANALYTICAL TEST GROUP		PARAMETERS		
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2
		2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2
		2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2
		2,3,4-Trichlorophenol	0 / 2	0 / 2
		2,3,5-Trichlorophenol	0 / 2	0 / 2
		2,4,5-Trichlorophenol	0 / 2	0 / 2
		2,4,6-Trichlorophenol	0 / 2	0 / 2
		2,4-Dimethyl phenol	0 / 2	0 / 2
		2,4-Dinitrophenol	0 / 2	0 / 2
		2,4-Dichlorophenol	0 / 2	0 / 2
		2,6-Dichlorophenol	0 / 2	0 / 2
		4,6-Dinitro-o-cresol	0 / 2	0 / 2
		2-Chlorophenol	0 / 2	0 / 2
		4-Chloro-3-methylphenol	0 / 2	0 / 2
		4-Nitrophenol	0 / 2	0 / 2
		m-Cresol	0 / 2	0 / 2
		o-Cresol	0 / 2	0 / 2
		p-Cresol	0 / 2	0 / 2
		Pentachlorophenol	0 / 2	0 / 2
		Phenol	0 / 2	0 / 2
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 2	0 / 2
		1,2,3,5-Tetrachlorobenzene	0 / 2	0 / 2
		1,2,4,5-Tetrachlorobenzene	0 / 2	0 / 2
		1,2,3-Trichlorobenzene	0 / 2	0 / 2
		1,2,4-Trichlorobenzene	0 / 2	0 / 2
		2,4,5-Trichlorotoluene	0 / 2	0 / 2
		Hexachlorobenzene	0 / 2	0 / 2
		Hexachlorobutadiene	0 / 2	0 / 2
		Hexachlorocyclopentadiene	0 / 2	0 / 2
		Hexachloroethane	0 / 2	0 / 2
		Octachlorostyrene	-	-
		Pentachlorobenzene	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	R.L. Hearn TGS	
		NAME OF EFFLUENT STREAM:	Intake	Drainage Collection Sump
ANALYTICAL TEST GROUP		PARAMETERS		
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 2	1 / 2
		Octachlorodibenzofuran	0 / 2	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2
		Total heptachlorinated dibenzofurans	0 / 2	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2
		Total hexachlonnated dibenzofurans	0 / 2	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2
		Total pentachlorinated dibenzofurans	0 / 2	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 2
25	Solvent Extractables	Oil and grease	1 / 2	2 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	1 / 2	1 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Thunder Bay Thermal Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Ash Transport Water Treatment System	Ash Transport Water Treatment System Overflow	Water Treatment Plant Neutralization Sump	Oily Water Separator	Coal Pile Runoff Pond	Boiler Blowdown	Condensor Cooling Water Outfall
ANALYTICAL TEST GROUP		PARAMETERS								
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	3 / 3	3 / 3	2 / 2	3 / 3	2 / 2	2 / 2	1 / 1	1 / 1
2	Total cyanide	Total cyanide	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	-	0 / 1
3	Hydrogen ion (pH)	Hydrogen ion (pH)	6 - 7	7	7	3 - 11	6 - 7	7	8	6
4a	Nitrogen	Ammonia plus Ammonium	0 / 3	0 / 3	0 / 2	2 / 3	2 / 3	1 / 2	1 / 2	0 / 1
		Total Kjeldahl nitrogen	3 / 3	2 / 3	2 / 2	2 / 3	3 / 3	0 / 2	-	-
4b		Nitrate + Nitrite	1 / 3	1 / 3	0 / 2	3 / 3	0 / 3	0 / 2	0 / 1	1 / 1
5a	Organic carbon	Dissolved organic carbon (DOC)	3 / 3	3 / 3	2 / 2	3 / 3	3 / 3	2 / 2	0 / 1	1 / 1
5b		Total organic carbon (TOC)	3 / 3	3 / 3	2 / 2	3 / 3	3 / 3	2 / 2	0 / 1	1 / 1
6	Total phosphorus	Total phosphorus	1 / 3	2 / 3	2 / 2	0 / 3	2 / 2	0 / 2	0 / 1	0 / 1
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	3 / 3	3 / 3	2 / 2	1 / 3	3 / 3	1 / 2	0 / 1	1 / 1
		Volatile suspended solids (VSS)	0 / 3	0 / 2	2 / 2	1 / 2	1 / 2	2 / 2	-	-
9	Total metals	Aluminum	2 / 3	3 / 3	2 / 2	2 / 3	2 / 2	2 / 2	0 / 1	0 / 1
		Beryllium	2 / 3	1 / 3	2 / 2	2 / 3	1 / 2	1 / 2	0 / 1	0 / 1
		Cadmium	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
		Chromium	1 / 3	2 / 3	2 / 2	2 / 3	2 / 2	1 / 2	0 / 1	0 / 1
		Cobalt	1 / 3	0 / 3	1 / 2	2 / 3	1 / 2	0 / 2	0 / 1	0 / 1
		Copper	1 / 3	1 / 3	2 / 2	2 / 3	2 / 2	1 / 2	0 / 1	0 / 1
		Lead	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 1	0 / 1	0 / 1
		Molybdenum	1 / 3	0 / 3	1 / 2	2 / 3	1 / 2	1 / 2	0 / 1	0 / 1
		Nickel	1 / 3	2 / 3	1 / 2	2 / 3	1 / 2	1 / 2	0 / 1	0 / 1
		Silver	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
		Thallium	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
		Vanadium	1 / 3	1 / 3	1 / 2	0 / 3	0 / 2	1 / 2	0 / 1	0 / 1
		Zinc	-	-	-	-	-	-	-	-
10	Hydrides	Antimony	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
		Arsenic	0 / 3	1 / 3	2 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
		Selenium	0 / 3	0 / 3	0 / 2	0 / 3	0 / 2	0 / 2	0 / 1	0 / 1
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0 / 1	0 / 1	-	0 / 1	1 / 1	-	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Thunder Bay Thermal Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Ash Transport Water Treatment System	Ash Transport Water Treatment System Overflow	Water Treatment Plant Neutralization Sump	Oily Water Separator	Coal Pile Runoff Pond	Boiler Blowdown	Condensor Cooling Water Outfall
ANALYTICAL TEST GROUP		PARAMETERS								
12	Mercury	Mercury	0/3	0/3	1/2	2/3	0/2	2/2	0/1	0/1
14	Phenolics (4AAP)	Phenolics (4AAP)	3/3	2/3	2/2	1/3	3/3	1/2	1/1	1/1
15	Sulphide	Sulphide	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,1,2-Trichloroethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,1-Dichloroethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,1-Dichloroethylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,2-Dichlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,2-Dichloroethane (Ethylene dichloride)	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,2-Dichloropropane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,3-Dichlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		1,4-Dichlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Bromoform	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Bromomethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Carbon tetrachloride	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Chlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Chloroform	3/3	0/3	1/2	2/2	1/3	0/2	-	1/1
		Chloromethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Cis-1,3-Dichloropropylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Dibromochloromethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Ethylene dibromide	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Methylene chloride	2/3	1/3	1/2	1/2	1/3	1/2	-	1/1
		Tetrachloroethylene (Perchloroethylene)	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Trans-1,2-Dichloroethylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Trans-1,3-Dichloropropylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Trichloroethylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Trichlorofluoromethane	0/3	0/3	0/2	0/2	0/3	0/2	-	-
		Vinyl chloride (Chloroethylene)	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
17	Volatiles, Non-Halogenated	Benzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		Styrene	0/3	0/3	0/2	0/2	0/3	0/2	-	-
		Toluene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		o-Xylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
		m-Xylene and p-Xylene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Thunder Bay Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Transport Water Treatment System	Ash Transport Water Treatment System Overflow	Water Treatment Plant Neutralization Sump	Oily Water Separator	Coal Pile Runoff Pond	Boiler Blowdown	Condensor Cooling Water Outfall
ANALYTICAL TEST GROUP	PARAMETERS								
19 Extractables, Base Neutral	Acenaphthene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	5-nitro Acenaphthene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Acenaphthylene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Anthracene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benz(a)anthracene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benzo(a)pyrene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benzo(b)fluoranthene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benzo(g,h,i)perylene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benzo(k)fluoranthene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Biphenyl	-	-	-	-	-	-	-	-
	Camphene	0/2	0/2	0/2	0/2	0/2	0/2	-	-
	1-Chloronaphthalene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	2-Chloronaphthalene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Chrysene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Dibenz(a,h)anthracene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Fluoranthene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Fluorene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Indeno(1,2,3-cd)pyrene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Indole	0/2	0/2	0/2	0/2	0/2	0/2	-	-
	1-Methylnaphthalene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	2-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	0/2	-	-
	Naphthalene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Perylene	0/2	0/2	0/2	0/2	0/2	0/2	-	-
	Phenanthrene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Pyrene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Benzyl butyl phthalate	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Bis(2-ethylhexyl) phthalate	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Di-n-butyl phthalate	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	4-Bromophenyl phenyl ether	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	4-Chlorophenyl phenyl ether	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Bis(2-chloroisopropyl)ether	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Bis(2-chloroethyl)ether	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Diphenyl ether	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	2,6-Dinitrotoluene	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Bis(2-chloroethoxy)methane	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	Diphenylamine	0/2	0/2	0/2	0/2	0/2	0/2	-	-
	N-Nitrosodiphenylamine	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1
	N-Nitrosodi-n-propylamine	0/3	0/3	0/2	0/2	0/2	0/2	-	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Thunder Bay Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Transport Water Treatment System	Ash Transport Water Treatment System Overflow	Water Treatment Plant Neutralization Sump	Oily Water Separator	Coal Pile Runoff Pond	Boiler Blowdown	Condensor Cooling Water Outfall
ANALYTICAL TEST GROUP	PARAMETERS								
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	2,3,4,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	2,3,5,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	2,3,4-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	2,3,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	2,4,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	2,4,6-Trichlorophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	2,4-Dimethyl phenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	2,4-Dinitrophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	2,4-Dichlorophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	2,6-Dichlorophenol	0/2	0/2	0/2	0/2	0/2	-	-	-
	4,6-Dinitro-o-cresol	0/3	0/3	0/2	0/2	0/2	-	-	-
	2-Chlorophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	4-Chloro-3-methylphenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	4-Nitrophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	m-Cresol	0/2	0/2	0/2	0/2	0/2	-	-	-
	o-Cresol	0/2	0/2	0/2	0/2	0/2	-	-	-
	p-Cresol	0/2	0/2	0/2	0/2	0/2	-	-	-
	Pentachlorophenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
	Phenol	0/3	0/3	0/2	0/2	0/2	-	-	0/1
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	1,2,3,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	1,2,4,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	1,2,3-Trichlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	1,2,4-Trichlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	2,4,5-Trichlorotoluene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	Hexachlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	Hexachlorobutadiene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	Hexachlorocyclopentadiene	0/2	0/2	0/2	0/2	0/3	0/2	-	-
	Hexachloroethane	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1
	Octachlorostyrene	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0/3	0/3	0/2	0/2	0/3	0/2	-	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Thunder Bay Thermal Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Ash Transport Water Treatment System	Ash Transport Water Treatment System Overflow	Water Treatment Plant Neutralization Sump	Oily Water Separator	Coal Pile Runoff Pond	Boiler Blowdown	Condensor Cooling Water Outfall
ANALYTICAL TEST GROUP	PARAMETERS								
24 Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total hexachlonnated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
	Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-
25 Solvent Extractables	Oil and grease	2 / 3	2 / 3	2 / 2	2 / 2	3 / 3	0 / 2	-	0 / 1
27 Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 3	0 / 2	-	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Decew Falls HGS		Pine Portage HGS		Sir Adam Beck HGS	
		NAME OF EFFLUENT STREAM:	Transformer Drainage Sump	Catch Basin	Intake	Drainage Sump	Intake	Drainage Sump
ANALYTICAL TEST GROUP		PARAMETERS						
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1 / 1	1 / 1	2 / 2	2 / 2	0 / 2	2 / 2
2	Total cyanide	Total cyanide	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	7	7	8	8	8	8
4a	Nitrogen	Ammonia plus Ammonium	1 / 1	1 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total Kjeldahl nitrogen	1 / 1	1 / 1	0 / 2	0 / 2	1 / 2	0 / 2
4b		Nitrate + Nitrite	1 / 1	1 / 1	0 / 2	0 / 2	0 / 2	0 / 2
5a	Organic carbon	Dissolved organic carbon (DOC)	1 / 1	1 / 1	2 / 2	2 / 2	2 / 2	2 / 2
5b		Total organic carbon (TOC)	1 / 1	1 / 1	2 / 2	2 / 2	0 / 2	2 / 2
6	Total phosphorus	Total phosphorus	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	1 / 1	1 / 1	0 / 2	0 / 2	0 / 2	1 / 2
		Volatile suspended solids (VSS)	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
9	Total metals	Aluminum	1 / 1	1 / 1	1 / 2	2 / 2	2 / 2	2 / 2
		Beryllium	0 / 1	0 / 1	1 / 2	1 / 2	0 / 2	0 / 2
		Cadmium	1 / 1	1 / 1	0 / 2	0 / 2	1 / 2	0 / 2
		Chromium	0 / 1	0 / 1	1 / 2	2 / 2	0 / 2	1 / 2
		Cobalt	0 / 1	0 / 1	0 / 2	0 / 5	0 / 2	1 / 2
		Copper	1 / 1	1 / 1	1 / 2	1 / 2	0 / 2	1 / 2
		Lead	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Molybdenum	0 / 1	1 / 1	1 / 2	2 / 2	1 / 2	2 / 2
		Nickel	0 / 1	0 / 1	1 / 2	2 / 2	0 / 2	0 / 2
		Silver	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Thallium	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Vanadium	0 / 1	0 / 1	0 / 2	1 / 2	0 / 2	0 / 2
		Zinc	1 / 1	1 / 1	1 / 2	2 / 2	2 / 2	1 / 2
10	Hydrides	Antimony	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Arsenic	1 / 1	1 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Selenium	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Decew Falls HGS		Pine Portage HGS		Sir Adam Beck HGS	
		NAME OF EFFLUENT STREAM:	Transformer Drainage Sump	Catch Basin	Intake	Drainage Sump	Intake	Drainage Sump
ANALYTICAL TEST GROUP		PARAMETERS						
12	Mercury	Mercury	0 / 1	0 / 1	1 / 2	0 / 2	0 / 2	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	1 / 1	1 / 1	0 / 2	1 / 2	0 / 2	0 / 2
15	Sulphide	Sulphide	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,1,2-Trichloroethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,1-Dichloroethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,1-Dichloroethylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichloropropane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,3-Dichlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,4-Dichlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bromoform	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bromomethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Carbon tetrachloride	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Chlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Chloroform	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Chloromethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Cis-1,3-Dichloropropylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Dibromochloromethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Ethylene dibromide	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Methylene chloride	1 / 1	1 / 1	0 / 2	0 / 2	1 / 2	2 / 2
		Tetrachloroethylene (Perchloroethylene)	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Trans-1,2-Dichloroethylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Trans-1,3-Dichloropropylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Trichloroethylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Trichlorofluoromethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Styrene	0 / 1	C / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Toluene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		o-Xylene	1 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		m-Xylene and p-Xylene	1 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Decew Falls HGS		Pine Portage HGS		Sir Adam Beck HGS	
	NAME OF EFFLUENT STREAM:	Transformer Drainage Sump	Catch Basin	Intake	Drainage Sump	Intake	Drainage Sump
ANALYTICAL TEST GROUP	PARAMETERS						
19 Extractables, Base Neutral	Acenaphthene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	5-nitro Acenaphthene	-	-	-	-	-	-
	Acenaphthylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Anthracene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benz(a)anthracene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benzo(a)pyrene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benzo(b)fluoranthene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benzo(g,h,i)perylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benzo(k)fluoranthene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Biphenyl	-	-	-	-	-	-
	Camphene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	1-Chloronaphthalene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	2-Chloronaphthalene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Chrysene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Dibenz(a,h)anthracene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Fluoranthene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Fluorene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Indeno(1,2,3-cd)pyrene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Indole	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	1-Methylnaphthalene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	2-Methylnaphthalene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Naphthalene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Perylene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Phenanthrene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Pyrene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Benzyl butyl phthalate	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Bis(2-ethylhexyl) phthalate	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Di-n-butyl phthalate	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	4-Bromophenyl phenyl ether	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	4-Chlorophenyl phenyl ether	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Bis(2-chloroisopropyl)ether	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Bis(2-chloroethyl)ether	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Diphenyl ether	-	-	-	-	-	-
	2,4-Dinitrotoluene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	2,6-Dinitrotoluene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Bis(2-chloroethoxy)methane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Diphenylamine	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	N-Nitrosodiphenylamine	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	N-Nitrosodi-n-propylamine	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Decew Falls HGS		Pine Portage HGS		Sir Adam Beck HGS	
		NAME OF EFFLUENT STREAM:	Transformer Drainage Sump	Catch Basin	Intake	Drainage Sump	Intake	Drainage Sump
ANALYTICAL TEST GROUP		PARAMETERS						
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,4,6-Tetrachlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,5,6-Tetrachlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,4-Trichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,3,5-Trichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,5-Trichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,6-Trichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dimethyl phenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dinitrophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4-Dichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,6-Dichlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		4,6-Dinitro-o-cresol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2-Chlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		4-Chloro-3-methylphenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		4-Nitrophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		m-Cresol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		o-Cresol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		p-Cresol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Pentachlorophenol	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Phenol	1 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,3,5-Tetrachlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,4,5-Tetrachlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,3-Trichlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1,2,4-Trichlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,4,5-Trichlorotoluene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorobutadiene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachlorocyclopentadiene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Hexachloroethane	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Octachlorostyrene	-	-	-	-	-	-
		Pentachlorobenzene	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Decew Falls HGS		Pine Portage HGS		Sir Adam Beck HGS	
		NAME OF EFFLUENT STREAM:	Transformer Drainage Sump	Catch Basin	Intake	Drainage Sump	Intake	Drainage Sump
ANALYTICAL TEST GROUP		PARAMETERS						
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Octachlorodibenzofuran	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total heptachlorinated dibenzofurans	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total hexachlorinated dibenzofurans	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total pentachlorinated dibenzofurans	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
25	Solvent Extractables	Oil and grease	1 / 1	1 / 1	1 / 2	2 / 2	0 / 2	2 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	1 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A Nuclear Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Boiler Blowdown	Boiler Wet Lay-up	Water Treatment Plant Neutralization Sump	Radioactive Liquid Waste Management Tank	Turbine Room Sump Unit	Reactor Auxiliary Bay Sump
ANALYTICAL TEST GROUP		PARAMETERS								
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	3 / 3	3 / 3	3 / 3	1 / 1	3 / 3	1 / 2	3 / 3	2 / 2
2	Total cyanide	Total cyanide	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	7 - 8	7 - 8	7 - 9	9	1 - 2	7	7	8
4a	Nitrogen	Ammonia plus Ammonium	0 / 3	0 / 3	2 / 3	1 / 1	1 / 3	2 / 3	2 / 3	2 / 2
		Total Kjeldahl nitrogen	0 / 3	1 / 3	2 / 2	1 / 1	3 / 3	3 / 3	1 / 3	2 / 2
4b		Nitrate + Nitrite	3 / 3	3 / 3	0 / 3	0 / 1	3 / 3	1 / 3	0 / 3	2 / 2
5a	Organic carbon	Dissolved organic carbon (DOC)	3 / 3	3 / 3	3 / 3	1 / 1	3 / 3	3 / 3	3 / 3	2 / 2
5b		Total organic carbon (TOC)	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	1 / 3	0 / 3	0 / 2
6	Total phosphorus	Total phosphorus	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 2	0 / 3	0 / 2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	2 / 3	1 / 3	0 / 3	1 / 1	0 / 3	1 / 3	0 / 3	0 / 2
		Volatile suspended solids (VSS)	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
9	Total metals	Aluminum	0 / 3	2 / 3	1 / 3	0 / 1	1 / 3	2 / 3	1 / 3	1 / 2
		Beryllium	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Cadmium	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Chromium	0 / 3	2 / 3	1 / 3	0 / 1	0 / 3	0 / 3	0 / 3	1 / 2
		Cobalt	0 / 3	0 / 3	1 / 3	0 / 1	0 / 3	0 / 3	0 / 3	1 / 2
		Copper	1 / 3	0 / 3	2 / 3	1 / 1	2 / 3	3 / 3	1 / 3	1 / 2
		Lead	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Molybdenum	0 / 3	2 / 3	1 / 3	1 / 1	1 / 3	1 / 3	2 / 3	1 / 2
		Nickel	1 / 3	1 / 3	1 / 3	1 / 1	1 / 3	0 / 3	0 / 3	0 / 2
		Silver	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Thallium	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Vanadium	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Zinc	1 / 3	0 / 3	2 / 3	1 / 1	1 / 3	3 / 3	1 / 3	2 / 2
10	Hydrides	Antimony	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Arsenic	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
		Selenium	0 / 3	0 / 3	0 / 3	0 / 1	0 / 3	0 / 3	0 / 3	0 / 2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0 / 1	0 / 1	0 / 1	-	-	0 / 1	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A Nuclear Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Boiler Blowdown	Boiler Wet Lay-up	Water Treatment Plant Neutralization Sump	Radioactive Liquid Waste Management Tank	Turbine Room Sump Unit	Reactor Auxiliary Bay Sump
ANALYTICAL TEST GROUP		PARAMETERS								
12	Mercury	Mercury	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	1 / 3	1 / 3	2 / 3	1 / 1	0 / 3	-	0 / 3	2 / 2
15	Sulphide	Sulphide	0 / 3	0 / 3	0 / 3	-	-	0 / 3	0 / 3	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,1,2-Trichloroethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,1-Dichloroethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,1-Dichloroethylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,2-Dichlorobenzene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,2-Dichloropropane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,3-Dichlorobenzene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		1,4-Dichlorobenzene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Bromoform	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Bromomethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Carbon tetrachloride	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Chlorobenzene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Chloroform	0 / 3	0 / 3	0 / 1	0 / 1	1 / 2	2 / 3	0 / 3	0 / 2
		Chloromethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Cis-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Dibromochloromethane	0 / 3	0 / 3	0 / 1	0 / 1	2 / 2	0 / 3	0 / 3	0 / 2
		Ethylene dibromide	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Methylene chloride	1 / 3	0 / 3	0 / 1	0 / 1	1 / 2	1 / 3	0 / 3	1 / 2
		Tetrachloroethylene (Perchloroethylene)	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Trans-1,2-Dichloroethylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Trans-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Trichloroethylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Trichlorofluoromethane	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Styrene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		Toluene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		o-Xylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
		m-Xylene and p-Xylene	0 / 3	0 / 3	0 / 1	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A Nuclear Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Boiler Blowdown	Boiler Wet Lay-up	Water Treatment Plant Neutralization Sump	Radioactive Liquid Waste Management Tank	Turbine Room Sump Unit	Reactor Auxiliary Bay Sump
ANALYTICAL TEST GROUP		PARAMETERS								
19	Extractables, Base Neutral	Acenaphthene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		5-nitro Acenaphthene	-	-	-	-	-	-	-	-
		Acenaphthylene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Anthracene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benz(a)anthracene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(a)pyrene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(b)fluoranthene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(g,h,i)perylene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(k)fluoranthene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Biphenyl	-	-	-	-	-	-	-	-
		Camphene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1-Chloronaphthalene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2-Chloronaphthalene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Chrysene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Dibenz(a,h)anthracene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Fluoranthene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Fluorene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Indeno(1,2,3-cd)pyrene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Indole	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		1-Methylnaphthalene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2-Methylnaphthalene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Naphthalene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Perylene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Phenanthrene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Pyrene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Benzyl butyl phthalate	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-ethylhexyl) phthalate	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	2 / 2	1 / 2	0 / 2
		Di-n-butyl phthalate	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		4-Bromophenyl phenyl ether	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		4-Chlorophenyl phenyl ether	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroisopropyl)ether	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroethyl)ether	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Diphenyl ether	-	-	-	-	-	-	-	-
		2,4-Dinitrotoluene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		2,6-Dinitrotoluene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroethoxy)methane	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		Diphenylamine	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		N-Nitrosodiphenylamine	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
		N-Nitrosodi-n-propylamine	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce A Nuclear Generating Station							
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Boiler Blowdown	Boiler Wet Lay-up	Water Treatment Plant Neutralization Sump	Radioactive Liquid Waste Management Tank	Turbine Room Sump Unit	Reactor Auxiliary Bay Sump
ANALYTICAL TEST GROUP	PARAMETERS								
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,4,6-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dimethyl phenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dinitrophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2,6-Dichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	4,6-Dinitro-o-cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	2-Chlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	4-Chloro-3-methylphenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	4-Nitrophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	m-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	o-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	p-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	Pentachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
	Phenol	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 2	0 / 2	0 / 2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	1,2,3,5-Tetrachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	1,2,4,5-Tetrachlorobenzene	-	-	-	-	-	-	-	-
	1,2,3-Trichlorobenzene	0 / 3	0 / 3	0 / 2	1 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	1,2,4-Trichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	2,4,5-Trichlorotoluene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	Hexachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	Hexachlorobutadiene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 3	0 / 2
	Hexachlorocyclopentadiene	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	Hexachloroethane	0 / 3	0 / 3	0 / 2	0 / 1	0 / 2	0 / 3	0 / 2	0 / 2
	Octachlorostyrene	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0 / 3	0 / 3	0 / 2	0 / 1	0 / 5	0 / 3	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A Nuclear Generating Station							
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Boiler Blowdown	Boiler Wet Lay-up	Water Treatment Plant Neutralization Sump	Radioactive Liquid Waste Management Tank	Turbine Room Sump Unit	Reactor Auxiliary Bay Sump
ANALYTICAL TEST GROUP		PARAMETERS								
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Octachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Octachlorodibenzofuran	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzofurans	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzofurans	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzofurans	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzofurans	0/2	0/2	0/2	0/1	0/2	0/2	0/2	0/2
25	Solvent Extractables	Oil and grease	1/3	1/3	0/3	1/1	1/3	2/3	2/3	1/2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/3	0/3	0/2	-	0/2	0/2	0/3	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A NGS (continued)					Bruce B NGS		
		NAME OF EFFLUENT STREAM:	Services Building	Water Treatment Plant	Ancillary Services Building	Accumulator Building	ECI Water Storage Tank Building	Intake	Outfall	Radioactive Liquid Waste Management
ANALYTICAL TEST GROUP		PARAMETERS								
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1 / 2	1 / 2	1 / 2	2 / 2	0 / 2	0 / 1	0 / 1	0 / 2
2	Total cyanide	Total cyanide	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	8	8	7 - 8	8	8	8	7
4a	Nitrogen	Ammonia plus Ammonium	0 / 2	0 / 2	1 / 2	2 / 2	0 / 2	0 / 1	0 / 1	2 / 2
		Total Kjeldahl nitrogen	0 / 2	0 / 2	1 / 2	2 / 2	0 / 2	0 / 1	0 / 1	2 / 2
4b		Nitrate + Nitrite	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	1 / 1	1 / 1	2 / 2
5a	Organic carbon	Dissolved organic carbon (DOC)	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	1 / 1	1 / 1	2 / 2
5b		Total organic carbon (TOC)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
6	Total phosphorus	Total phosphorus	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	1 / 2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0 / 2	0 / 2	1 / 2	1 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Volatile suspended solids (VSS)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
9	Total metals	Aluminum	1 / 2	1 / 2	0 / 2	2 / 2	2 / 2	1 / 1	1 / 1	2 / 2
		Beryllium	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Cadmium	0 / 2	1 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Chromium	1 / 2	0 / 2	0 / 2	0 / 2	0 / 2	1 / 1	1 / 1	0 / 2
		Cobalt	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Copper	1 / 2	0 / 2	0 / 2	0 / 2	0 / 2	1 / 1	1 / 1	0 / 2
		Lead	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Molybdenum	2 / 2	0 / 2	0 / 2	0 / 2	1 / 2	0 / 1	0 / 1	0 / 2
		Nickel	0 / 2	1 / 2	0 / 2	0 / 2	0 / 2	1 / 1	1 / 1	0 / 2
		Silver	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Thallium	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Vanadium	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	1 / 1	1 / 1	0 / 2
		Zinc	1 / 2	0 / 2	0 / 2	2 / 2	2 / 2	0 / 1	0 / 1	2 / 2
10	Hydrides	Antimony	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Arsenic	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Selenium	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A NGS (continued)					Bruce B NGS		
		NAME OF EFFLUENT STREAM:	Services Building	Water Treatment Plant	Ancillary Services Building	Accumulator Building	ECI Water Storage Tank Building	Intake	Outfall	Radioactive Liquid Waste Management
ANALYTICAL TEST GROUP		PARAMETERS								
12	Mercury	Mercury	2 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	0 / 2	1 / 2	1 / 2	2 / 2	1 / 2	0 / 1	0 / 1	-
15	Sulphide	Sulphide	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,1,2-Trichloroethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,1-Dichloroethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,1-Dichloroethylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,2-Dichlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,2-Dichloropropane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,3-Dichlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		1,4-Dichlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Bromoform	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Bromomethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Carbon tetrachloride	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Chlorobenzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Chloroform	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Chloromethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Cis-1,3-Dichloropropylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Dibromochloromethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Ethylene dibromide	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Methylene chloride	1 / 2	2 / 2	1 / 2	1 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Tetrachloroethylene (Perchloroethylene)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Trans-1,2-Dichloroethylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Trans-1,3-Dichloropropylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Trichloroethylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Trichlorofluoromethane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		Styrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Toluene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		o-Xylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2
		m-Xylene and p-Xylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce A NGS (continued)					Bruce B NGS		
	NAME OF EFFLUENT STREAM:	Services Building	Water Treatment Plant	Ancillary Services Building	Accumulator Building	ECI Water Storage Tank Building	Intake	Outfall	Radioactive Liquid Waste Management
ANALYTICAL TEST GROUP	PARAMETERS								
19 Extractables, Base Neutral	Acenaphthene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	5-nitro Acenaphthene	-	-	-	-	-	-	-	-
	Acenaphthylene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Anthracene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benz(a)anthracene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benzo(a)pyrene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benzo(b)fluoranthene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benzo(g,h,i)perylene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benzo(k)fluoranthene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Biphenyl	-	-	-	-	-	-	-	-
	Camphene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	1-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	2-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Chrysene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Dibenz(a,h)anthracene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Fluoranthene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Fluorene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Indeno(1,2,3-cd)pyrene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Indole	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	1-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	2-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Naphthalene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Perylene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Phenanthrene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Pyrene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Benzyl butyl phthalate	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Bis(2-ethylhexyl) phthalate	0/2	0/2	0/2	0/2	0/2	-	-	2/2
	Di-n-butyl phthalate	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	4-Bromophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	4-Chlorophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Bis(2-chloroisopropyl)ether	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Bis(2-chloroethyl)ether	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Diphenyl ether	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	2,6-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Bis(2-chloroethoxy)methane	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	Diphenylamine	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	N-Nitrosodiphenylamine	0/2	0/2	0/2	0/2	0/2	-	-	0/2
	N-Nitrosodi-n-propylamine	0/2	0/2	0/2	0/2	0/2	-	-	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce A NGS (continued)					Bruce B NGS		
	NAME OF EFFLUENT STREAM:	Services Building	Water Treatment Plant	Ancillary Services Building	Accumulator Building	ECI Water Storage Tank Building	Intake	Outfall	Radioactive Liquid Waste Management
ANALYTICAL TEST GROUP	PARAMETERS								
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,4,6-Trichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,4-Dimethyl phenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,4-Dinitrophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,4-Dichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2,6-Dichlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	4,6-Dinitro-o-cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	2-Chlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	4-Chloro-3-methylphenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	4-Nitrophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	m-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	o-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	p-Cresol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	Pentachlorophenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
	Phenol	0 / 2	0 / 2	0 / 2	-	0 / 2	-	-	0 / 2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	1,2,3,5-Tetrachlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	1,2,4,5-Tetrachlorobenzene	-	-	-	-	-	0 / 1	0 / 1	0 / 2
	1,2,3-Trichlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	1,2,4-Trichlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	2,4,5-Trichlorotoluene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	Hexachlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	Hexachlorobutadiene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	Hexachlorocyclopentadiene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	Hexachloroethane	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2
	Octachlorostyrene	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0 / 2	0 / 2	0 / 2	-	0 / 2	0 / 1	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce A NGS (continued)					Bruce B NGS		
		NAME OF EFFLUENT STREAM:	Services Building	Water Treatment Plant	Ancillary Services Building	Accumulator Building	ECI Water Storage Tank Building	Intake	Outfall	Radioactive Liquid Waste Management
ANALYTICAL TEST GROUP		PARAMETERS								
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total hexachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	-	-	0 / 2
25	Solvent Extractables	Oil and grease	1 / 2	1 / 2	1 / 2	0 / 2	1 / 2	0 / 1	0 / 1	0 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce Heavy Water Plants								
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Process Effluent	Degasser Hotwell	Intermittent Stripper Effluent	Effluent Lagoon	Surface Drainage Lagoon	Cooling Water from E4	Cooling Water from North Flare
ANALYTICAL TEST GROUP		PARAMETERS									
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1/3	1/3	3/3	2/3	3/3	3/3	1/2	1/2	1/2
2	Total cyanide	Total cyanide	1/3	0/3	0/2	0/3	0/3	0/2	0/2	0/2	0/2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	8	7-9	6	7-9	7	8	8	8
4a	Nitrogen	Ammonia plus Ammonium	0/3	0/3	0/3	0/3	0/3	0/3	1/2	0/2	0/2
		Total Kjeldahl nitrogen	0/3	0/3	0/3	0/3	0/3	0/3	2/2	0/2	0/2
4b		Nitrate + Nitrite	3/3	3/3	3/3	3/3	3/3	0/3	1/1	2/2	2/2
5a	Organic carbon	Dissolved organic carbon (DOC)	3/3	3/3	3/3	3/3	3/3	3/3	2/2	2/2	2/2
5b		Total organic carbon (TOC)	1/3	1/3	1/3	1/3	1/3	1/3	1/2	1/2	1/2
6	Total phosphorus	Total phosphorus	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0/3	0/3	0/3	0/3	0/3	0/3	1/1	0/2	0/2
		Volatile suspended solids (VSS)	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2
9	Total metals	Aluminum	2/3	2/3	2/3	3/3	3/3	3/3	2/2	2/2	2/2
		Beryllium	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Cadmium	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Chromium	0/3	0/3	0/3	0/3	0/3	0/3	0/2	1/2	0/2
		Cobalt	1/3	2/3	0/3	1/3	1/3	1/3	0/2	1/2	1/2
		Copper	0/3	1/3	0/3	1/3	0/3	0/3	0/2	1/2	1/2
		Lead	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Molybdenum	1/3	2/3	0/3	0/3	2/3	1/3	0/2	1/2	1/2
		Nickel	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Silver	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Thallium	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Vanadium	0/3	1/3	0/3	1/3	1/3	0/3	0/2	1/2	1/2
		Zinc	0/3	1/3	0/3	1/3	0/3	0/3	1/2	1/2	0/2
10	Hydrides	Antimony	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Arsenic	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
		Selenium	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0/1	0/1	0/1	0/1	0/1	0/1	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce Heavy Water Plants								
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Process Effluent	Degasser Hotwell	Intermittent Stripper Effluent	Effluent Lagoon	Surface Drainage Lagoon	Cooling Water from E4	Cooling Water from North Flare
ANALYTICAL TEST GROUP		PARAMETERS									
12	Mercury	Mercury	0 / 3	0 / 3	0 / 2	0 / 2	1 / 2	1 / 2	0 / 2	0 / 2	0 / 2
14	Phenolics (4AAP)	Phenolics (4AAP)	2 / 3	1 / 3	1 / 3	1 / 3	0 / 3	0 / 3	2 / 2	2 / 2	1 / 2
15	Sulphide	Sulphide	0 / 3	0 / 3	1 / 3	0 / 3	0 / 3	0 / 4	0 / 2	0 / 2	0 / 2
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,1,2-Trichloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,1-Dichloroethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,1-Dichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichloroethane (Ethylene dichloride)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,2-Dichloropropane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,3-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1,4-Dichlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bromoform	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bromomethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Carbon tetrachloride	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Chlorobenzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Chloroform	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Chloromethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Cis-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Dibromochloromethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Ethylene dibromide	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Methylene chloride	1 / 3	0 / 3	1 / 2	0 / 2	1 / 2	1 / 2	1 / 2	0 / 2	2 / 2
		Tetrachloroethylene (Perchloroethylene)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Trans-1,2-Dichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Trans-1,3-Dichloropropylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Trichloroethylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Trichlorofluoromethane	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Vinyl chloride (Chloroethylene)	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
17	Volatiles, Non-Halogenated	Benzene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Styrene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Toluene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		o-Xylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		m-Xylene and p-Xylene	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce Heavy Water Plants								
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Process Effluent	Degasser Hotwell	Intermittent Stripper Effluent	Effluent Lagoon	Surface Drainage Lagoon	Cooling Water from E4	Cooling Water from North Flare
ANALYTICAL TEST GROUP	PARAMETERS									
19 Extractables, Base Neutral	Acenaphthene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	5-nitro Acenaphthene	-	-	-	-	-	-	-	-	-
	Acenaphthylene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Anthracene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benz(a)anthracene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benzo(a)pyrene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benzo(b)fluoranthene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benzo(g,h,i)perylene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benzo(k)fluoranthene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Biphenyl	-	-	-	-	-	-	-	-	-
	Camphene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Chrysene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Dibenz(a,h)anthracene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Fluoranthene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Fluorene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Indeno(1,2,3-cd)pyrene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Indole	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Naphthalene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Perylene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Phenanthrene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Pyrene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Benzyl butyl phthalate	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Bis(2-ethylhexyl) phthalate	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Di-n-butyl phthalate	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	4-Bromophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	4-Chlorophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroisopropyl)ether	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroethyl)ether	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Diphenyl ether	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,6-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Bis(2-chloroethoxy)methane	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Diphenylamine	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	N-Nitrosodiphenylamine	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	N-Nitrosodi-n-propylamine	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce Heavy Water Plants								
	NAME OF EFFLUENT STREAM:	Intake	Outfall	Process Effluent	Degasser Hotwell	Intermittent Stripper Effluent	Effluent Lagoon	Surface Drainage Lagoon	Cooling Water from E4	Cooling Water from North Flare
ANALYTICAL TEST GROUP	PARAMETERS									
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,3,4,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,3,5,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,3,4-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,3,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4,6-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4-Dimethyl phenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4-Dinitrophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4-Dichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,6-Dichlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	4,6-Dinitro-o-cresol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2-Chlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	4-Chloro-3-methylphenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	4-Nitrophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	m-Cresol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	o-Cresol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	p-Cresol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Pentachlorophenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Phenol	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1,2,3,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1,2,4,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1,2,3-Trichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	1,2,4-Trichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	2,4,5-Trichlorotoluene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Hexachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Hexachlorobutadiene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Hexachlorocyclopentadiene	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Hexachloroethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	Octachlorostyrene	-	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce Heavy Water Plants								
		NAME OF EFFLUENT STREAM:	Intake	Outfall	Process Effluent	Degasser Hotwell	Intermittent Stripper Effluent	Effluent Lagoon	Surface Drainage Lagoon	Cooling Water from E4	Cooling Water from North Flare
ANALYTICAL TEST GROUP		PARAMETERS									
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Octachlorodibenzo-p-dioxin	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Octachlorodibenzofuran	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total heptachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total hexachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total pentachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzo-p-dioxins	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
		Total tetrachlorinated dibenzofurans	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
25	Solvent Extractables	Oil and grease	1/3	0/3	2/3	1/3	2/3	2/2	2/2	0/2	1/2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/3	0/3	0/2	0/2	1/2	0/2	0/2	1/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce Nuclear Power Development Services					
		NAME OF EFFLUENT STREAM:	Sewage Processing Plant Effluent*	Stream 'C' Tie Road	Stream 'C' at Baie du Dore	Radioactive Waste Disposal Site Drainage**	Condensate Plant Neutralization Sump	Ditch from Bruce NGS A
ANALYTICAL TEST GROUP		PARAMETERS						
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	3/3	3/3	3/3	2/2	2/2	2/2
2	Total cyanide	Total cyanide	0/3	0/3	0/3	0/2	0/2	0/2
3	Hydrogen ion (pH)	Hydrogen ion (pH)	7	7-8	8	8	7-8	8
4a	Nitrogen	Ammonia plus Ammonium	2/3	0/3	0/3	0/2	0/2	0/2
		Total Kjeldahl nitrogen	3/3	1/3	0/3	0/2	2/2	0/2
4b		Nitrate + Nitrite	3/3	0/3	3/3	1/2	2/2	2/2
5a	Organic carbon	Dissolved organic carbon (DOC)	3/3	3/3	3/3	2/2	2/2	2/2
5b		Total organic carbon (TOC)	1/3	3/3	3/3	1/2	2/2	0/2
6	Total phosphorus	Total phosphorus	3/3	1/3	0/3	0/2	0/2	0/2
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	1/3	0/3	0/3	0/2	1/2	0/2
		Volatile suspended solids (VSS)	0/2	0/2	0/2	0/2	0/2	0/2
9	Total metals	Aluminum	3/3	3/3	3/3	2/2	2/2	2/2
		Beryllium	0/3	1/3	1/3	0/2	0/2	0/2
		Cadmium	0/3	0/3	0/3	1/2	0/2	0/2
		Chromium	1/3	0/3	1/3	0/2	0/2	0/2
		Cobalt	2/3	2/3	2/3	0/2	1/2	1/2
		Copper	3/3	1/3	1/3	0/2	1/2	0/2
		Lead	0/3	0/3	0/3	0/2	0/2	0/2
		Molybdenum	1/3	0/3	1/3	0/2	0/2	1/2
		Nickel	1/3	1/3	1/3	0/2	0/2	0/2
		Silver	0/3	0/3	0/3	0/2	0/2	0/2
		Thallium	0/3	0/3	0/3	0/2	0/2	0/2
		Vanadium	1/3	1/3	1/3	0/1	0/2	0/2
		Zinc	3/3	0/3	1/3	1/1	1/2	2/2
10	Hydrides	Antimony	0/3	0/3	0/3	0/2	0/2	0/2
		Arsenic	0/3	0/3	0/3	0/2	0/2	0/2
		Selenium	0/3	0/3	0/3	0/2	0/2	0/2
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce Nuclear Power Development Services					
	NAME OF EFFLUENT STREAM:	Sewage Processing Plant Effluent*	Stream 'C' Tie Road	Stream 'C' at Baie du Dore	Radioactive Waste Disposal Site Drainage**	Condensate Plant Neutralization Sump	Ditch from Bruce NGS A
ANALYTICAL TEST GROUP	PARAMETERS						
12 Mercury	Mercury	1/3	0/3	0/3	0/2	0/2	0/2
14 Phenolics (4AAP)	Phenolics (4AAP)	0/3	0/3	0/3	0/2	0/2	1/2
15 Sulphide	Sulphide	0/3	0/3	0/3	0/2	0/2	0/2
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/3	0/3	0/3	0/2	0/2	0/2
	1,1,2-Trichloroethane	0/3	0/3	0/3	0/2	0/2	0/2
	1,1-Dichloroethane	0/3	0/3	0/3	0/2	0/2	0/2
	1,1-Dichloroethylene	0/3	0/3	0/3	0/2	0/2	0/2
	1,2-Dichlorobenzene	0/3	0/3	0/3	0/2	0/2	0/2
	1,2-Dichloroethane (Ethylene dichloride)	0/3	0/3	0/3	0/2	0/2	0/2
	1,2-Dichloropropane	0/3	0/3	0/3	0/2	0/2	0/2
	1,3-Dichlorobenzene	0/3	0/3	0/3	0/2	0/2	0/2
	1,4-Dichlorobenzene	0/3	0/3	0/3	0/2	0/2	0/2
	Bromoform	0/3	0/3	0/3	0/2	0/2	0/2
	Bromomethane	0/3	0/3	0/3	0/2	0/2	0/2
	Carbon tetrachloride	0/3	0/3	0/3	0/2	0/2	0/2
	Chlorobenzene	0/3	0/3	0/3	0/2	0/2	0/2
	Chloroform	1/3	0/3	0/3	0/2	0/2	0/2
	Chloromethane	0/3	0/3	0/3	0/2	0/2	0/2
	Cis-1,3-Dichloropropylene	0/3	0/3	0/3	0/2	0/2	0/2
	Dibromochloromethane	0/3	0/3	0/3	0/2	0/2	0/2
	Ethylene dibromide	0/3	0/3	0/3	0/2	0/2	0/2
	Methylene chloride	0/3	0/3	1/3	2/2	1/2	0/2
	Tetrachloroethylene (Perchloroethylene)	0/3	0/3	0/3	0/2	0/2	0/2
	Trans-1,2-Dichloroethylene	0/3	0/3	0/3	0/2	0/2	0/2
	Trans-1,3-Dichloropropylene	0/3	0/3	0/3	0/2	0/2	0/2
	Trichloroethylene	0/3	0/3	0/3	0/2	0/2	0/2
	Trichlorofluoromethane	0/3	0/3	0/3	0/2	1/2	0/2
	Vinyl chloride (Chloroethylene)	0/3	0/3	0/3	0/2	0/2	0/2
17 Volatiles, Non-Halogenated	Benzene	0/3	0/3	0/3	0/2	0/2	0/2
	Styrene	0/2	0/2	0/2	0/2	0/2	0/2
	Toluene	0/3	0/3	0/3	0/2	1/2	0/2
	o-Xylene	0/3	0/3	0/3	0/2	0/2	0/2
	m-Xylene and p-Xylene	0/3	0/3	0/3	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Bruce Nuclear Power Development Services					
		NAME OF EFFLUENT STREAM:	Sewage Processing Plant Effluent*	Stream 'C' Tie Road	Stream 'C' at Baie du Dore	Radioactive Waste Disposal Site Drainage**	Condensate Plant Neutralization Sump	Ditch from Bruce NGS A
ANALYTICAL TEST GROUP		PARAMETERS						
19	Extractables, Base Neutral	Acenaphthene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		5-nitro Acenaphthene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Acenaphthylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Anthracene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benz(a)anthracene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(a)pyrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(b)fluoranthene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(g,h,i)perylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benzo(k)fluoranthene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Biphenyl	-	-	-	-	-	-
		Camphene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1-Chloronaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2-Chloronaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Chrysene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Dibenz(a,h)anthracene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Fluoranthene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Fluorene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Indeno(1,2,3-cd)pyrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Indole	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		1-Methylnaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2-Methylnaphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Naphthalene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Perylene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Phenanthrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Pyrene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Benzyl butyl phthalate	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-ethylhexyl) phthalate	0 / 2	0 / 2	0 / 2	1 / 2	0 / 2	0 / 2
		Di-n-butyl phthalate	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		4-Bromophenyl phenyl ether	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		4-Chlorophenyl phenyl ether	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroisopropyl)ether	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroethyl)ether	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Diphenyl ether	-	-	-	-	-	-
		2,4-Dinitrotoluene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		2,6-Dinitrotoluene	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Bis(2-chloroethoxy)methane	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		Diphenylamine	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		N-Nitrosodiphenylamine	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
		N-Nitrosodi-n-propylamine	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Bruce Nuclear Power Development Services					
	NAME OF EFFLUENT STREAM:	Sewage Processing Plant Effluent*	Stream 'C' Tie Road	Stream 'C' at Baie du Dore	Radioactive Waste Disposal Site Drainage**	Condensate Plant Neutralization Sump	Ditch from Bruce NGS A
ANALYTICAL TEST GROUP	PARAMETERS						
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,4,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,5,6-Tetrachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,4-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,3,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,4,5-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,4,6-Trichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dimethyl phenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dinitrophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,4-Dichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2,6-Dichlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	4,6-Dinitro-o-cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	2-Chlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	4-Chloro-3-methylphenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	4-Nitrophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	m-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	o-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	p-Cresol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	Pentachlorophenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
	Phenol	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	1,2,3,5-Tetrachlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	1,2,4,5-Tetrachlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	1,2,3-Trichlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	1,2,4-Trichlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	2,4,5-Trichlorotoluene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	Hexachlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	Hexachlorobutadiene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	Hexachlorocyclopentadiene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	Hexachloroethane	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
	Octachlorostyrene	-	-	-	-	-	-
	Pentachlorobenzene	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

			NAME OF COMPANY:	Bruce Nuclear Power Development Services					
			NAME OF EFFLUENT STREAM:	Sewage Processing Plant Effluent*	Stream 'C' Tie Road	Stream 'C' at Baie du Dore	Radioactive Waste Disposal Site Drainage**	Condensate Plant Neutralization Sump	Ditch from Bruce NGS A
ANALYTICAL TEST GROUP			PARAMETERS						
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans		2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total hexachlonnated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2
			Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	1 / 2	0 / 2
25	Solvent Extractables		Oil and grease	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)		PCBs (Total)	0 / 3	0 / 3	0 / 3	0 / 2	0 / 2	0 / 2

* Requirements in Schedule E

** Requirements in Schedule F

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Chalk River Nuclear Laboratories										
		NAME OF EFFLUENT STREAM:	Duke Stream	Perch Creek	Intake	Pump-house Drain	Process Sewer	Sanitary Sewer	01 Stream	02 Stream	03 Stream	04 Stream	05 Stream
ANALYTICAL TEST GROUP		PARAMETERS											
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
2	Total cyanide	Total cyanide	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
3	Hydrogen ion (pH)	Hydrogen ion (pH)	7	7	7	8	7	3	7	7	7	7	7
4a	Nitrogen	Ammonia plus Ammonium	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1
		Total Kjeldahl nitrogen	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1
4b		Nitrate + Nitrite	0/1	0/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
5a	Organic carbon	Dissolved organic carbon (DOC)	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5b		Total organic carbon (TOC)	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6	Total phosphorus	Total phosphorus	0/1	0/1	0/1	1/1	0/1	1/1	1/1	0/1	0/1	0/1	0/1
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	1/1	0/1	0/1	0/1	0/1	1/1	1/1	1/1	1/1	0/1	0/1
		Volatile suspended solids (VSS)	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1
9	Total metals	Aluminum	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
		Beryllium	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Cadmium	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Chromium	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Cobalt	0/1	0/1	0/1	1/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1
		Copper	1/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1	0/1	0/1	1/1
		Lead	0/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1
		Molybdenum	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Nickel	0/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1	0/1	0/1	0/1
		Silver	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Thallium	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Vanadium	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1
		Zinc	1/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1	0/1	0/1	1/1
10	Hydrides	Antimony	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Arsenic	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
		Selenium	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
11	Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Chalk River Nuclear Laboratories										
	NAME OF EFFLUENT STREAM:	Duke Stream	Perch Creek	Intake	Pump-house Drain	Process Sewer	Sanitary Sewer	01 Stream	02 Stream	03 Stream	04 Stream	05 Stream
ANALYTICAL TEST GROUP	PARAMETERS											
12 Mercury	Mercury	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
14 Phenolics (4AAP)	Phenolics (4AAP)	0/1	0/1	0/1	0/1	1/1	1/1	1/1	0/1	0/1	0/1	0/1
15 Sulphide	Sulphide	0/1	1/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	1/1
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,1,2-Trichloroethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,1-Dichloroethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,1-Dichloroethylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,2-Dichlorobenzene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,2-Dichloroethane (Ethylene dichloride)	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,2-Dichloropropane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,3-Dichlorobenzene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1,4-Dichlorobenzene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bromoform	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bromomethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Carbon tetrachloride	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Chlorobenzene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Chloroform	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	1/1	1/1	0/1
	Chloromethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Cis-1,3-Dichloropropylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Dibromochloromethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Ethylene dibromide	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Methylene chloride	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Tetrachloroethylene (Perchloroethylene)	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Trans-1,2-Dichloroethylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Trans-1,3-Dichloropropylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Trichloroethylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Trichlorofluoromethane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Vinyl chloride (Chloroethylene)	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
17 Volatiles, Non-Halogenated	Benzene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Styrene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Toluene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	o-Xylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	m-Xylene and p-Xylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Chalk River Nuclear Laboratories										
	NAME OF EFFLUENT STREAM:	Duke Stream	Perch Creek	Intake	Pump-house Drain	Process Sewer	Sanitary Sewer	01 Stream	02 Stream	03 Stream	04 Stream	05 Stream
ANALYTICAL TEST GROUP	PARAMETERS											
19 Extractables, Base Neutral	Acenaphthene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	5-nitro Acenaphthene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Acenaphthylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Anthracene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benz(a)anthracene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benzo(a)pyrene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benzo(b)fluoranthene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benzo(g,h,i)perylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benzo(k)fluoranthene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Biphenyl	-	-	-	-	-	-	-	-	-	-	-
	Camphene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1-Chloronaphthalene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	2-Chloronaphthalene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Chrysene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Dibenz(a,h)anthracene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Fluoranthene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Fluorene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Indeno(1,2,3-cd)pyrene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Indole	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	1-Methylnaphthalene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	2-Methylnaphthalene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Naphthalene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Perylene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Phenanthrene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Pyrene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Benzyl butyl phthalate	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bis(2-ethylhexyl) phthalate	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Di-n-butyl phthalate	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1
	4-Bromophenyl phenyl ether	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	4-Chlorophenyl phenyl ether	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bis(2-chloroisopropyl)ether	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bis(2-chloroethyl)ether	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Diphenyl ether	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	2,6-Dinitrotoluene	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Bis(2-chloroethoxy)methane	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Diphenylamine	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	N-Nitrosodiphenylamine	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	N-Nitrosodi-n-propylamine	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Chalk River Nuclear Laboratories										
	NAME OF EFFLUENT STREAM:	Duke Stream	Perch Creek	Intake	Pump-house Drain	Process Sewer	Sanitary Sewer	01 Stream	02 Stream	03 Stream	04 Stream	05 Stream
ANALYTICAL TEST GROUP	PARAMETERS											
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,3,4,6-Tetrachlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,3,5,6-Tetrachlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,3,4-Trichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,3,5-Trichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4,5-Trichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4,6-Trichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4-Dimethyl phenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4-Dinitrophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4-Dichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,6-Dichlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	4,6-Dinitro-o-cresol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2-Chlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	4-Chloro-3-methylphenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	4-Nitrophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	m-Cresol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	o-Cresol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	p-Cresol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Pentachlorophenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Phenol	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	1,2,3,5-Tetrachlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	1,2,4,5-Tetrachlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	1,2,3-Trichlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	1,2,4-Trichlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	2,4,5-Trichlorotoluene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Hexachlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Hexachlorobutadiene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Hexachlorocyclopentadiene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Hexachloroethane	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Octachlorostyrene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1
	Pentachlorobenzene	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1	0 / 1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Chalk River Nuclear Laboratories										
	NAME OF EFFLUENT STREAM:	Duke Stream	Perch Creek	Intake	Pump-house Drain	Process Sewer	Sanitary Sewer	01 Stream	02 Stream	03 Stream	04 Stream	05 Stream
ANALYTICAL TEST GROUP	PARAMETERS											
24 Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Octachlorodibenzo-p-dioxin	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Octachlorodibenzofuran	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total heptachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total heptachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total hexachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total hexachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total pentachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total pentachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total tetrachlorinated dibenzo-p-dioxins	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
	Total tetrachlorinated dibenzofurans	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
25 Solvent Extractables	Oil and grease	0/1	1/1	0/1	0/1	1/1	1/1	1/1	0/1	0/1	0/1	0/1
27 Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Darlington Nuclear Generating Station (under construction)								
		NAME OF EFFLUENT STREAM:	Intake	Sewage Treatment Plant	Boiler Blowdown	Water Treatment Plant	Storm Drain	Pipe Cleaning Rinse Tank 2	Pipe Cleaning Rinse Tank 4	Waste Lagoon	Waste Disposal Site Settling Pond
ANALYTICAL TEST GROUP		PARAMETERS									
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	3/3	3/3	2/2	1/2	2/2	2/2	2/2	3/3	3/3
2	Total cyanide	Total cyanide	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
3	Hydrogen ion (pH)	Hydrogen ion (pH)	8	7	11	8	8	7-8	5-7	8	8
4a	Nitrogen	Ammonia plus Ammonium	0/3	3/3	0/2	0/2	2/2	0/2	0/2	0/3	0/3
		Total Kjeldahl nitrogen	0/3	3/3	2/2	1/2	2/2	1/2	0/2	0/3	3/3
4b		Nitrate + Nitrite	1/3	3/3	2/2	2/2	2/2	2/2	2/2	2/3	2/3
5a	Organic carbon	Dissolved organic carbon (DOC)	3/3	3/3	2/2	2/2	2/2	2/2	2/2	3/3	3/3
5b		Total organic carbon (TOC)	0/3	3/3	2/2	0/2	1/2	2/2	2/2	0/3	2/3
6	Total phosphorus	Total phosphorus	0/3	2/3	2/2	0/2	0/2	1/2	1/2	0/3	0/3
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	2/3	3/3	2/2	0/2	0/2	2/2	2/2	0/3	2/3
		Volatile suspended solids (VSS)	0/2	2/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
9	Total metals	Aluminum	3/3	3/3	2/2	2/2	2/2	2/2	2/2	3/3	3/3
		Beryllium	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
		Cadmium	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
		Chromium	2/3	3/3	1/2	0/2	1/2	2/2	1/2	1/3	2/3
		Cobalt	1/3	2/3	1/2	0/2	1/2	2/2	0/2	1/3	1/3
		Copper	2/3	3/3	2/2	1/2	1/2	2/2	1/2	2/3	2/3
		Lead	0/3	0/3	2/2	0/2	0/2	0/2	0/2	0/3	0/3
		Molybdenum	2/3	3/3	1/2	0/2	1/2	2/2	0/2	1/3	1/3
		Nickel	1/3	1/3	0/2	0/2	0/2	1/2	0/2	1/3	1/3
		Silver	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
		Thallium	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
		Vanadium	0/3	0/3	0/2	0/2	0/2	1/2	0/2	0/3	0/3
		Zinc	1/3	3/3	2/2	0/2	2/2	2/2	1/2	2/3	2/3
10	Hydrides	Antimony	0/3	0/3	0/2	0/2	0/2	0/2	1/2	0/3	0/3
		Arsenic	0/3	0/3	1/2	0/2	0/2	0/2	1/2	0/3	0/3
		Selenium	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
11	Chromium (Hexavalent)	Chromium (Hexavalent)	0/1	0/1	-	-	-	0/1	-	0/1	1/1

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Darlington Nuclear Generating Station (under construction)								
	NAME OF EFFLUENT STREAM:	Intake	Sewage Treatment Plant	Boiler Blowdown	Water Treatment Plant	Storm Drain	Pipe Cleaning Rinse Tank 2	Pipe Cleaning Rinse Tank 4	Waste Lagoon	Waste Disposal Site Settling Pond
ANALYTICAL TEST GROUP	PARAMETERS									
12 Mercury	Mercury	0/3	2/3	2/3	1/2	0/2	0/2	1/2	0/3	0/3
14 Phenolics (4AAP)	Phenolics (4AAP)	0/2	2/2	2/2	0/2	1/2	1/1	2/2	0/2	2/2
15 Sulphide	Sulphide	0/3	0/3	0/2	0/2	5/8	0/2	0/2	0/3	0/3
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,1,2-Trichloroethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,1-Dichloroethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,1-Dichloroethylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,2-Dichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,2-Dichloroethane (Ethylene dichloride)	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,2 Dichloropropane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,3-Dichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	1,4-Dichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Bromoform	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Bromomethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Carbon tetrachloride	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Chlorobenzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Chloroform	0/3	2/3	0/2	1/2	2/2	2/2	2/2	0/3	0/3
	Chloromethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Cis-1,3-Dichloropropylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Dibromochloromethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Ethylene dibromide	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Methylene chloride	2/3	1/3	1/2	1/2	1/2	0/2	0/2	0/3	0/3
	Tetrachloroethylene (Perchloroethylene)	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Trans-1,2-Dichloroethylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Trans-1,3-Dichloropropylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Trichloroethylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Trichlorofluoromethane	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Vinyl chloride (Chloroethylene)	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
17 Volatiles, Non-Halogenated	Benzene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/3	0/3
	Styrene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Toluene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	o-Xylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2
	m-Xylene and p-Xylene	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Darlington Nuclear Generating Station (under construction)								
	NAME OF EFFLUENT STREAM:	Intake	Sewage Treatment Plant	Boiler Blowdown	Water Treatment Plant	Storm Drain	Pipe Cleaning Rinse Tank 2	Pipe Cleaning Rinse Tank 4	Waste Lagoon	Waste Disposal Site Settling Pond
ANALYTICAL TEST GROUP	PARAMETERS									
19 Extractables, Base Neutral	Acenaphthene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	5-nitro Acenaphthene	-	-	-	-	-	-	-	-	-
	Acenaphthylene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Anthracene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benz(a)anthracene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benzo(a)pyrene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benzo(b)fluoranthene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benzo(g,h,i)perylene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benzo(k)fluoranthene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Biphenyl	-	-	-	-	-	-	-	-	-
	Camphene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2-Chloronaphthalene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Chrysene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Dibenz(a,h)anthracene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Fluoranthene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Fluorene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Indeno(1,2,3-cd)pyrene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Indole	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2-Methylnaphthalene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Naphthalene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Perylene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Phenanthrene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Pyrene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Benzyl butyl phthalate	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Bis(2-ethylhexyl) phthalate	1/2	2/2	1/2	0/2	0/2	1/1	1/2	0/2	0/2
	Di-n-butyl phthalate	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	4-Bromophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	4-Chlorophenyl phenyl ether	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Bis(2-chloroisopropyl)ether	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Bis(2-chloroethyl)ether	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Diphenyl ether	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,6-Dinitrotoluene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Bis(2-chloroethoxy)methane	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Diphenylamine	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	N-Nitrosodiphenylamine	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	N-Nitrosodi-n-propylamine	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Darlington Nuclear Generating Station (under construction)								
	NAME OF EFFLUENT STREAM:	Intake	Sewage Treatment Plant	Boiler Blowdown	Water Treatment Plant	Storm Drain	Pipe Cleaning Rinse Tank 2	Pipe Cleaning Rinse Tank 4	Waste Lagoon	Waste Disposal Site Settling Pond
ANALYTICAL TEST GROUP	PARAMETERS									
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,3,4,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,3,5,6-Tetrachlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,3,4-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,3,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4,5-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4,6-Trichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4-Dimethyl phenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4-Dinitrophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4-Dichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,6-Dichlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	4,6-Dinitro-o-cresol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2-Chlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	4-Chloro-3-methylphenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	4-Nitrophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	m-Cresol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	o-Cresol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	p-Cresol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Pentachlorophenol	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Phenol	0/2	1/3	0/2	0/2	0/2	1/2	1/2	1/3	0/2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1,2,3,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1,2,4,5-Tetrachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1,2,3-Trichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	1,2,4-Trichlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	2,4,5-Trichlorotoluene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Hexachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Hexachlorobutadiene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Hexachlorocyclopentadiene	0/2	0/2	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Hexachloroethane	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2
	Octachlorostyrene	-	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0/3	0/3	0/2	0/2	0/2	0/1	0/2	0/2	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Darlington Nuclear Generating Station (under construction)								
		NAME OF EFFLUENT STREAM:	Intake	Sewage Treatment Plant	Boiler Blowdown	Water Treatment Plant	Storm Drain	Pipe Cleaning Rinse Tank 2	Pipe Cleaning Rinse Tank 4	Waste Lagoon	Waste Disposal Site Settling Pond
ANALYTICAL TEST GROUP		PARAMETERS									
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Octachlorodibenzofuran	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total heptachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total heptachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total hexachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total hexachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total pentachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total pentachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
		Total tetrachlorinated dibenzofurans	0 / 2	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2
25	Solvent Extractables	Oil and grease	1 / 3	2 / 3	2 / 2	1 / 2	0 / 2	1 / 2	2 / 2	1 / 3	1 / 3
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 3	2 / 3	0 / 2	0 / 2	0 / 2	0 / 1	0 / 2	0 / 2	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Douglas Point WMF		Nuclear Power Demonstration WMF			Pickering NGS			
	NAME OF EFFLUENT STREAM:	Intake	Outfall*	Intake	Inactive Drainage	Manhole # 2	Intake	Outfall Unit 3	Outfall Unit 5	Radioactive Liquid Waste Management Tank
ANALYTICAL TEST GROUP	PARAMETERS									
1 Chemical Oxygen Demand	Chemical oxygen demand (COD)	1 / 1	2 / 2	0 / 2	2 / 2	2 / 2	1 / 1	1 / 1	1 / 1	2 / 2
2 Total cyanide	Total cyanide	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
3 Hydrogen ion (pH)	Hydrogen ion (pH)	8	7	6	6	6	8	8	8	6
4a Nitrogen	Ammonia plus Ammonium	0 / 1	1 / 2	0 / 2	2 / 2	1 / 2	0 / 1	0 / 1	0 / 1	1 / 2
	Total Kjeldahl nitrogen	0 / 1	2 / 2	0 / 2	2 / 2	1 / 2	0 / 1	0 / 1	0 / 1	2 / 2
4b	Nitrate + Nitrite	1 / 1	2 / 2	2 / 2	0 / 2	2 / 2	1 / 1	1 / 1	1 / 1	0 / 2
5a Organic carbon	Dissolved organic carbon (DOC)	1 / 1	2 / 2	0 / 2	2 / 2	1 / 2	1 / 1	1 / 1	1 / 1	2 / 2
5b	Total organic carbon (TOC)	0 / 1	1 / 2	0 / 2	2 / 2	1 / 2	0 / 1	0 / 1	0 / 1	2 / 2
6 Total phosphorus	Total phosphorus	0 / 1	0 / 2	0 / 2	2 / 2	0 / 2	0 / 1	0 / 1	0 / 1	2 / 2
8 Suspended solids (TSS/VSS)	Total suspended solids (TSS)	0 / 1	0 / 2	0 / 2	2 / 2	1 / 2	0 / 1	0 / 1	1 / 1	2 / 2
	Volatile suspended solids (VSS)	0 / 1	1 / 2	0 / 2	1 / 2	1 / 2	-	-	-	2 / 2
9 Total metals	Aluminum	1 / 1	1 / 2	2 / 2	2 / 2	2 / 2	1 / 1	1 / 1	1 / 1	2 / 2
	Beryllium	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Cadmium	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	1 / 2
	Chromium	0 / 1	1 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Cobalt	0 / 1	1 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Copper	0 / 1	1 / 2	1 / 2	2 / 2	1 / 2	0 / 1	0 / 1	1 / 1	2 / 2
	Lead	0 / 1	1 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	1 / 2
	Molybdenum	1 / 1	1 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Nickel	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Silver	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Thallium	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Vanadium	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	-	0 / 1	0 / 2
	Zinc	1 / 1	2 / 2	2 / 2	2 / 2	2 / 2	0 / 1	0 / 1	0 / 1	2 / 2
10 Hydrides	Antimony	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Arsenic	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
	Selenium	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	0 / 1	0 / 1	0 / 1	0 / 2
11 Chromium (Hexavalent)	Chromium (Hexavalent)	-	-	-	-	-	-	-	-	-

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Douglas Point WMF		Nuclear Power Demonstration WMF			Pickering NGS			
	NAME OF EFFLUENT STREAM:	Intake	Outfall*	Intake	Inactive Drainage	Manhole # 2	Intake	Outfall Unit 3	Outfall Unit 5	Radioactive Liquid Waste Management Tank
ANALYTICAL TEST GROUP	PARAMETERS									
12 Mercury	Mercury	0/1	0/2	0/2	1/2	0/2	0/1	0/1	0/1	0/2
14 Phenolics (4AAP)	Phenolics (4AAP)	0/1	0/2	0/2	2/2	1/2	1/1	0/1	0/1	-
15 Sulphide	Sulphide	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	2/2
16 Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,1,2-Trichloroethane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,1-Dichloroethane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,1-Dichloroethylene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,2-Dichlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,2-Dichloroethane (Ethylene dichloride)	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,2-Dichloropropane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,3-Dichlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,4-Dichlorobenzene	0/1	0/2	0/2	2/2	0/2	0/1	0/1	0/1	0/2
	Bromoform	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Bromomethane	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	Carbon tetrachloride	0/1	0/2	0/2	1/2	0/2	0/1	0/1	0/1	0/2
	Chlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Chloroform	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Chloromethane	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	Cis-1,3-Dichloropropylene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Dibromochloromethane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Ethylene dibromide	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Methylene chloride	1/1	2/2	2/2	2/2	2/2	1/1	1/1	0/1	1/2
	Tetrachloroethylene (Perchloroethylene)	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Trans-1,2-Dichloroethylene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Trans-1,3-Dichloropropylene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Trichloroethylene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Trichlorofluoromethane	0/1	0/2	0/2	1/2	0/2	-	-	-	0/2
	Vinyl chloride (Chloroethylene)	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
17 Volatiles, Non-Halogenated	Benzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Styrene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Toluene	0/1	0/2	0/2	1/2	0/2	0/1	0/1	0/1	0/2
	o-Xylene	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	m-Xylene and p-Xylene	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Douglas Point WMF		Nuclear Power Demonstration WMF			Pickering NGS			
	NAME OF EFFLUENT STREAM:	Intake	Outfall*	Intake	Inactive Drainage	Manhole # 2	Intake	Outfall Unit 3	Outfall Unit 5	Radioactive Liquid Waste Management Tank
ANALYTICAL TEST GROUP	PARAMETERS									
19 Extractables, Base Neutral	Acenaphthene	0 / 1	0 / 2	-	-	-	-	-	-	0 / 2
	5-nitro Acenaphthene	-	-	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Acenaphthylene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Anthracene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benz(a)anthracene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benzo(a)pyrene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benzo(b)fluoranthene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benzo(g,h,i)perylene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benzo(k)fluoranthene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Biphenyl	-	-	0 / 2	0 / 2	0 / 2	-	-	-	-
	Camphene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	1-Chloronaphthalene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	2-Chloronaphthalene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Chrysene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Dibenz(a,h)anthracene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Fluoranthene	0 / 1	0 / 2	0 / 2	0 / 2	1 / 2	-	-	-	0 / 2
	Fluorene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Indeno(1,2,3-cd)pyrene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Indole	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	1 / 2
	1-Methylnaphthalene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	2-Methylnaphthalene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Naphthalene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Perylene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Phenanthrene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Pyrene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Benzyl butyl phthalate	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Bis(2-ethylhexyl) phthalate	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	2 / 2
	Di-n-butyl phthalate	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	4-Bromophenyl phenyl ether	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	4-Chlorophenyl phenyl ether	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Bis(2-chloroisopropyl)ether	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Bis(2-chloroethyl)ether	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Diphenyl ether	-	-	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	2,4-Dinitrotoluene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	2,6-Dinitrotoluene	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Bis(2-chloroethoxy)methane	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	Diphenylamine	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	N-Nitrosodiphenylamine	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
	N-Nitrosodi-n-propylamine	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

	NAME OF COMPANY:	Douglas Point WMF		Nuclear Power Demonstration WMF			Pickering NGS			
	NAME OF EFFLUENT STREAM:	Intake	Outfall*	Intake	Inactive Drainage	Manhole # 2	Intake	Outfall Unit 3	Outfall Unit 5	Radioactive Liquid Waste Management Tank
ANALYTICAL TEST GROUP	PARAMETERS									
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,3,4,6-Tetrachlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,3,5,6-Tetrachlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,3,4-Trichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,3,5-Trichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,4,5-Trichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,4,6-Trichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,4-Dimethyl phenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,4-Dinitrophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,4-Dichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2,6-Dichlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	4,6-Dinitro-o-cresol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	2-Chlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	4-Chloro-3-methylphenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	4-Nitrophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	m-Cresol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	o-Cresol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	p-Cresol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	Pentachlorophenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	Phenol	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
23 Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,2,3,5-Tetrachlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	1,2,4,5-Tetrachlorobenzene	0/1	0/2	0/2	0/2	0/2	-	-	-	2/2
	1,2,3-Trichlorobenzene	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	1,2,4-Trichlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	2,4,5-Trichlorotoluene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Hexachlorobenzene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Hexachlorobutadiene	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Hexachlorocyclopentadiene	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2
	Hexachloroethane	0/1	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/2
	Octachlorostyrene	-	-	-	-	-	-	-	-	-
	Pentachlorobenzene	0/1	0/2	0/2	0/2	0/2	-	-	-	0/2

TABLE 5 - ELECTRIC POWER GENERATION SECTOR PRE-REGULATION MONITORING FREQUENCIES OF DETECTION

		NAME OF COMPANY:	Douglas Point WMF		Nuclear Power Demonstration WMF			Pickering NGS			
		NAME OF EFFLUENT STREAM:	Intake	Outfall*	Intake	Inactive Drainage	Manhole # 2	Intake	Outfall Unit 3	Outfall Unit 5	Radioactive Liquid Waste Management Tank
	ANALYTICAL TEST GROUP	PARAMETERS									
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Octachlorodibenzo-p-dioxin	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	2 / 2
		Octachlorodibenzofuran	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total heptachlorinated dibenzo p-dioxins	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total heptachlorinated dibenzofurans	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total hexachlorinated dibenzo p dioxins	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total hexachlorinated dibenzofurans	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total pentachlorinated dibenzo p-dioxins	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total pentachlorinated dibenzofurans	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
		Total tetrachlorinated dibenzo-p-dioxins	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-		0 / 2
		Total tetrachlorinated dibenzofurans	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2	-	-	-	0 / 2
25	Solvent Extractables	Oil and grease	0 / 1	0 / 2	0 / 2	2 / 2	1 / 2	0 / 1	0 / 1	0 / 1	2 / 2
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	0 / 1	0 / 2	1 / 2	1 / 2	0 / 2	0 / 1	0 / 1	0 / 1	2 / 2

* Requirements in Schedule E

TABLE 6 - ROTATIONAL SAMPLING SCHEDULE FOR BOILER BLOWDOWN EFFLUENT

FOSSIL FUELLED STATIONS

STATION	UNIT	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
LAKEVIEW TGS	1	B						B					
	2		B						B				
	3			B						B			
	4				B						B		
	5					B						B	
	6						B						B
	7	B						B					
	8		B						B				
LAMBTON TGS	1	B				B				B			
	2		B				B				B		
	3			B				B				B	
	4				B				B				B
NANTICOKE TGS	1	B						B					
	2		B						B				
	3			B						B			
	4				B						B		
	5					B						B	
	6						B						B
	7	B						B					
	8		B						B				
THUNDERBAY TGS	2	B		B		B		B		B		B	
	3		B		B		B		B		B		B
ATIKOKAN TGS	1	B	B	B	B	B	B	B	B	B	B	B	B
LENNOX TGS	1	B			B			B			B		
	2		B			B			B			B	
	4			B			B			B			B

TABLE 6 - ROTATIONAL SAMPLING SCHEDULE FOR BOILER BLOWDOWN EFFLUENT

NUCLEAR POWERED STATIONS

STATION	UNIT	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
PICKERING NGS-A	1	B				B				B			
	2		B				B				B		
	3			B				B				B	
	4				B				B				B
PICKERING NGS-B	5	B				B				B			
	6		B				B				B		
	7			B				B				B	
	8				B				B				B
DARLINGTON NGS	2	B	B	B	B	B	B	B	B	B	B	B	B
BRUCE NGS-A	1	B				B				B			
	2		B				B				B		
	3			B				B				B	
	4				B				B				B
BRUCE NGS - B	1	B				B				B			
	2		B				B				B		
	3			B				B				B	
	4				B				B				B

TABLE 7

Summary of the Parameter/Frequency Assignment Rules

A) PROCESS EFFLUENTS / BATCH DISCHARGE EFFLUENT / COMBINED EFFLUENT / BOILER BLOWDOWN EFFLUENT

DAILY

Conventional Pollutants:

All effluents	:	pH, Specific Conductance (continuous monitoring preferred).
Certain effluents	:	TSS, Sulphide, TRO.

THRICE WEEKLY

Conventional Pollutants:

Triggers	:	Total Ammonia > = 10 mg/L (NO3 + NO2) > = 10 mg/L Phenolics (4AAP) > = 10 ug/L Total Phosphorus and Total nitrogen (sewage treatment plants only).

Certain effluents (some or all of the following) :

Fossil-fuelled TGS	:	DOC, TOC, Ammonia plus ammonium, nitrate plus nitrite, Total Phosphorus, TSS, VSS, Phenolics, Solvent Extractables.
Nuclear-powered TGS	:	DOC, TOC, Ammonia plus ammonium, nitrate plus nitrite, Total Kjeldahl Nitrogen, DOC, TOC, Total Phosphorus, TSS, VSS, Solvent Extractables and Phenolics.
Associated Facilities	:	DOC, TOC, Ammonia plus ammonium, Total Kjeldahl Nitrogen, nitrate plus nitrite, TSS, VSS, Total Phosphorus, Solvent Extractables, Phenolics.

TABLE 7

Priority Pollutants:

Fossil and Nuclear TGS & Associated Facilities	:	Copper, Zinc, Iron (EPA, Pre-regulation data) EPG Sector List Priority Pollutants > = Long Term Medians (LTM, Table 8)

WEEKLY

Conventional Pollutants:

Certain effluents (some or all of the following):

Fossil-fuelled TGS	:	Total Kjeldahl Nitrogen, nitrates plus nitrites, Total Phosphorus, Solvent Extractables, Phenolics.
Nuclear-powered TGS	:	Ammonia plus ammonium, Total Kjeldahl Nitrogen, Total Phosphorus, Solvent Extractables, Phenolics.
Associated facilities	:	Kjeldahl nitrogen, nitrates plus nitrites, total phosphorus, TSS, Solvent Extractables, Phenolics.

Priority Pollutants:

Fossil and Nuclear TGS & Associated Facilities	:	EPG Sector List Priority Pollutants List > Method Detection Limit (MDL) < LTM. (e.g. Phenol > 2.4 ug/L)

TABLE 7

MONTHLY

Conventional Pollutants:

Certain effluents (some or all of the following) :

Fossil-fuelled TGS	:	Ammonia plus ammonium, Total Kjeldahl Nitrogen, Nitrates plus Nitrites, DOC, TOC, phenolics and solvent extractables.
Nuclear-powered TGS	:	Nitrates plus nitrites, solvent extractables.
Associated facilities	:	Ammonia plus ammonium, Total Kjeldahl Nitrogen, Nitrates plus nitrites, TOC, total phosphorus, TSS, phenolics, and solvent extractables.

Priority Pollutants:

Fossil and Nuclear TGS & Associated Facilities	:	Complete analytical test group (ATG) if one member of group > MDL. (e.g. ATG 20 if Phenol > 2.4 ug/L)

MONTHLY

Biomonitoring	:	Toxicity - Rainbow Trout (LC50 96h) Daphnia magna (LC50 48 h)

QUARTERLY

Characterization / Open Characterization	:	All conventional pollutants (see Table 3) EPG Sector Priority Pollutants (see Table 3) Open characterization - organic and elemental.

TABLE 7

B) EVENT DISCHARGE (Oily water separators - nuclear, effluent lagoon, treated coal pile effluent)

MONTHLY / EVENT

Fossil-fuelled TGS	:	pH, specific conductance, ammonia plus ammonium, Total Kjeldahl Nitrogen, nitrates plus nitrites, DOC, TOC, Total phosphorus, TSS, Total metals, Iron, hydrides, hexavalent chromium, mercury, phenolics, solvent extractables, and neutral chlorinated extractables.
Nuclear-powered TGS	:	pH, DOC, TOC, Specific Conductance, TSS, VSS, Copper, Zinc, Iron, Phenolics, Solvent Extractables.
Heavy Water Plants	:	pH, DOC, TOC, Total phosphorus, specific conductance, TSS, Aluminum, Copper, Molybdenum, Mercury, Sulphide, Solvent Extractables, PCB's, Diethanolamine.

MONTHLY / EVENT

Biomonitoring	:	Toxicity - Rainbow Trout (LC50 96 h) Daphnia magna (LC50 48 h)

C) ONCE-THROUGH COOLING WATER (OTCW)

DAILY

Fossil and Nuclear TGS & Associated Facilities	:	intake/discharge temperature required on condenser OTCW only. Total residual oxidants (TRO) at representative chlorination sampling points.

TABLE 7

MONTHLY

Conventional Pollutants:

Fossil and Nuclear TGS & Associated Facilities	:	pH, Specific conductance, DOC, TOC, TSS, Total Phosphorus, Solvent Extractables, Additional parameters > MDL.
Hydraulic Stations	:	pH, Specific Conductance, DOC, TOC, TSS, Total Phosphorus, Solvent Extractables.

Priority Pollutants:

Fossil and Nuclear TGS & Associated Facilities	:	all parameters > MDL
Hydraulic Stations	:	PCB's, Best professional judgement.

QUARTERLY

Biomonitoring	:	Toxicity - Rainbow Trout (LC50 96h)
		Daphnia magna (LC50 48 h)

D) STORM WATER EFFLUENT

MONTHLY

The following parameters will be monitored:

ATG. No.	FOSSIL	NUCLEAR	ASSOCIATED FACILITIES
3 (pH)	xxx	xxx	xxx
5a (DOC)	xxx	xxx	xxx
5b (TOC)	xxx	xxx	xxx
6 (Tot P)	xxx	xxx	xxx
7 (Sp. Cond)	xxx	xxx	xxx
8 (TSS)	xxx	xxx	xxx
25 (Sol. Extr.)	xxx	xxx	xxx
Remainder EPGS Sector List (Only)	If > MDL	If > MDL	If > MDL

TABLE 7

E) COAL PILE EFFLUENT

MONTHLY / EVENT : 12 data points per year.

The following parameters shall be monitored: pH, Specific Conductance, ammonia plus ammonium, total Kjeldahl nitrogen, nitrates plus nitrites, DOC, TOC, total phosphorus, TSS, Total metals, Iron, hydrides, hexavalent chromium, mercury, phenolics, solvent extractables and neutral chlorinated extractables.

F) WASTE DISPOSAL SITE EFFLUENT

MONTHLY

Associated facilities : pH, specific conductance, ammonia plus ammonium, Total Kjeldahl Nitrogen, nitrates plus nitrites, DOC, TOC, Total Phosphorus, TSS, Phenols, Solvent Extractables, > MDL.

G) POTENTIALLY CONTAMINATED BUILDING EFFLUENT / EQUIPMENT CLEANING EFFLUENT

MONTHLY

The following core parameters to be monitored:

pH, specific conductance, DOC, TOC, Total phosphorus, TSS, Copper, Zinc, Iron, solvent extractables, > MDL.

H) EMERGENCY OVERFLOW EFFLUENT

DURING DISCHARGE

The following parameters require monitoring:

pH, specific conductance, ammonia plus ammonium, Total Kjeldahl Nitrogen, nitrates plus nitrites, DOC,TOC,TSS, Total Phosphorus, Solvent Extractables, Copper, Zinc, Iron.

TABLE 8 - U.S. EPA BATEA PERFORMANCE DATA (OPTION 2)

POLLUTANT OR POLLUTANT PROPERTY BY PRIORITY POLLUTANT CLASSES	MEDIAN OF LONGTERM WEIGHTED MEANS (PPB)
Halogenated Methanes (C1)	
Carbon tetrachloride	10
Chloroform	10
Methylene chloride	10
Methyl chloride	50
Bromoform	10
Bromodichloromethane	10
Chlorinated C2's	
1,2-Dichloroethane	13.4
1,1,1-Trichloroethane	10
Hexachloroethane	10
1,1,2-Trichloroethane	10
Chloroethane	50
1,1-Dichloroethylene	10
1,2-trans-Dichloroethylene	10
Tetrachloroethylene	10.7
Trichloroethylene	10
Vinyl chloride	10
Chlorinated C3's	
1,2-Dichloropropane	59.4
1,3-Dichloropropylene	36.9
Chlorinated C4's	
Hexachlorobutadiene	10
Chloroalkyl Ethers	
bis(2-chloroisopropyl)ether	10
Metals	
Antimony	158
Arsenic	25.1
Chromium	64.5
Copper	27.7
Lead	100
Mercury	2.03
Nickel	166
Selenium	12
Zinc	69.5
Miscellaneous	
Acrylonitrile	50
Cyanide	64.9

POLLUTANT OR POLLUTANT PROPERTY BY PRIORITY POLLUTANT CLASSES	MEDIAN OF LONGTERM WEIGHTED MEANS (PPB)
Aromatics	
Benzene	10
Ethylbenzene	10
Toluene	10
Polyaromatics	
Acenaphthene	10
Fluoranthene	13.2
Naphthalene	10
Benzo(a)anthracene	10
Benzo(a)pyrene	10
3,4-Benzofluoranthene	10
Chrysene	10
Acenaphthylene	10
Anthracene	10
Fluorene	10
Phenanthrene	10
Pyrene	12.5
Chloroaromatics	
Chlorobenzene	15.9
1,2,4-Trichlorobenzene	26.4
Hexachlorobenzene	10
o-Dichlorobenzene	52.3
m-Dichlorobenzene	21.3
p-Dichlorobenzene	10
Phthalate Esters	
bis(2-Ethylhexyl)phthalate	19.6
Di-n-butyl phthalate	22.2
Diethyl phthalate	44.4
Dimethyl phthalate	10
Nitroaromatics	
2,4-Dinitrotoluene	219
2,6-Dinitrotoluene	255
Nitrobenzene	206
Benzidines	
3,3-Dichlorobenzidine	262
Phenols	
2,4-Dimethylphenol	10.6
Phenol	10

TABLE 8 - U.S. EPA BATEA PERFORMANCE DATA (OPTION 2)

POLLUTANT OR POLLUTANT PROPERTY BY PRIORITY POLLUTANT CLASSES	MEDIAN OF LONGTERM WEIGHTED MEANS (PPB)
Nitrophenols	
2-Nitrophenol	24
4-Nitrophenol	50
2,4-Dinitrophenol	50
4,6-Dinitro-o-cresol	20
Chlorophenols	
2,4,6-Trichlorophenol	65.9
2-Chlorophenol	10
2,4-Dichlorophenol	16.9
Pentachlorophenol	50

TABLE 9 - PROBABILITY OF DETECTING AT LEAST ONE SAMPLE ABOVE THE DETECTION LIMIT

SINGLE SAMPLE PROBABILITY OF		NUMBER OF SAMPLES								RATIO OF DETECT/ (DETECT + NON-DETECT) (D/D+ND)
DETECT (P)	NON-DETECT (Q)	12	11	10	9	8	6	4	2	
0.5	0.5	0.999	0.999	0.999	0.998	0.996	0.984	0.937	0.750	1/2
0.4	0.6	0.998	0.996	0.994	0.990	0.983	0.953	0.870	0.640	2/5
0.3	0.7	0.986	0.980	0.972	0.960	0.942	0.882	0.759	0.510	3/10
0.2	0.8	0.931	0.914	0.893	0.866	0.832	0.738	0.590	0.360	1/5
0.1	0.9	0.717	0.686	0.651	0.613	0.569	0.468	0.344	0.190	1/10
0.05	0.95	0.460	0.431	0.401	0.370	0.337	0.265	0.185	0.098	1/20
0.02	0.98	0.215	0.199	0.183	0.166	0.149	0.114	0.078	0.040	1/50
0.01	0.99	0.113	0.105	0.095	0.086	0.077	0.058	0.039	0.019	1/100

The table shows the probability of a sample with a parameter above MDL for the number of samples tested

TABLE 10 - SUMMARY OF RECOMMENDATIONS RELATED TO MONITORING (SERIES 300) FROM ENVIRONMENT CANADA'S ENVIRONMENTAL CODE OF PRACTICE

NUMBER	SUBJECT	SUMMARY OF RECOMMENDATION
R301	**Monitoring Facilities** - Access	Design so that they can be safely accessed and used.
R302	**Once-Through Cooling** - Continuous Monitors	Provide for i) continuous flow and temperature monitors and grab sampling of once-through cooling and auxiliary cooling streams, ii) TRC readings at condenser and heat exchangers outlets, if chlorine used.
R303	**Once-Through Cooling** - Periodic Monitoring	Provide for periodic biological sampling of cooling water forebay and discharge, and fish by-pass.
R304	**Discharged Wastewaters** - Monitors	Provide for i) representative sampling, ii) integrated flow monitors (±10% accuracy), iii) on-line pH, TRC or other monitors.
R305	**Inplant Waters** - Monitoring Considerations	Consider flow monitors and sampling facilities for in-plant water streams.
R306	**Groundwaters** - Monitors	Provide permanent piezometer/well system at coal storage and waste disposal sites.
R307	**Groundwaters** - Pre-operational Monitoring	Conduct pre-operational monitoring starting at least one year before construction.
R308	**Aquatic Environment** - Pre-operational Monitoring	Conduct pre-operational monitoring starting at least one year before construction to determine baseline data for biota, water quality and sediment.
R309	**Environmental Data** - Processing	Provide appropriate facilities for analyses, alarms, and data storage and retrieval.

PART C

THE EFFLUENT MONITORING REGULATION

FOR THE

ELECTRIC POWER GENERATION SECTOR

ONTARIO REGULATION 726/89

under the Environmental Protection Act

EFFLUENT MONITORING - ELECTRIC POWER GENERATION SECTOR

OFFICE VERSION

THIS CONSOLIDATED EDITION IS PREPARED FOR PUPOSES OF CONVENIENCE ONLY, AND FOR ACCURATE REFERENCE RECOURSE SHOULD BE HAD TO THE ONTARIO GAZETTE (SCHEDULED FOR PUBLICATION JANUARY 13, 1990)

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REGULATION MADE UNDER THE ENVIRONMENTAL PROTECTION ACT

EFFLUENT MONITORING - ELECTRIC POWER GENERATION SECTOR

DEFINITIONS

1.-(1) In this Regulation,

"batch discharge effluent stream" means a stream identified as a batch discharge effluent stream in a Schedule;

"boiler blowdown effluent" means boiler blowdown water that is discharged, directly or indirectly, to a surface watercourse;

"boiler blowdown water" means recirculating boiler water that is discharged from a boiler for the purpose of controlling the level of water in the boiler or for the purpose of discharging from the boiler materials contained in the recirculating boiler water the further buildup of which would impair the operation of the boiler;

"boiler blowdown effluent sampling point" means a location in a boiler blowdown effluent stream situated,

(a) before the place of discharge to a surface watercourse, and

(b) upstream of any significant contaminant masking or significant dilution by any other effluent;

"boiler blowdown effluent stream" means boiler blowdown effluent that flows through an open or closed channel;

"characterization" means the analysis of a sample to identify and quantify all of the parameters in Schedule AA other than the parameters in analytical test groups E2 and E3 as set out in that Schedule;

"chlorination sampling point" means a location in a once-through cooling water effluent stream situated,

(a) before the place of discharge to a surface water-course,

(b) downstream of any turbine exhaust steam condenser through which the stream flows, and

(c) upstream of any point at which the stream joins any other stream;

"coal pile effluent" means effluent from a coal pile area;

"coal pile effluent sampling point" means a location in a coal pile effluent stream situated,

(a) before the place of discharge to a surface watercourse,

(b) upstream of any treatment,

(c) upstream of any significant contaminant masking or significant dilution by any other effluent, and

(d) downstream of the point at which the stream flows away from the coal pile area;

"coal pile effluent stream" means coal pile effluent that flows through an open or closed channel;

"equipment cleaning effluent" means,

(a) effluent that results from the washing or chemical cleaning of industrial equipment, including boilers and heat exchangers, and

(b) effluent that is discharged from a boiler following the wet layup of the boiler;

"equipment cleaning effluent sampling point" means a location in an equipment cleaning effluent stream situated,

(a) before the place of discharge to a surface watercourse, and

(b) upstream of any significant contaminant masking or significant dilution by any other effluent;

"equipment cleaning effluent stream" means equipment cleaning effluent that flows through an open or closed channel;

"event discharge effluent" means effluent in an event discharge effluent stream;

"event discharge effluent sampling point" means a location in an event discharge effluent stream situated,

(a) before the place of discharge to a surface watercourse, and

(b) upstream of any significant contaminant masking or significant dilution by any other effluent;

"event discharge effluent stream" means a stream identified as an event discharge effluent stream in a Schedule;

"General Effluent Monitoring Regulation" means Ontario Regulation 695/88;

"once-through cooling water sampling point" means a location in a once-through cooling water effluent stream situated before the place of discharge to a surface watercourse and,

(a) in the case of a plant in Category C, downstream of any additions of any other effluent, other than additions from water treatment plant neutralization sumps, or

(b) in the case of any other plant, downstream of any additions of any other effluent;

"potentially contaminated building effluent" means effluent,

(a) that is collected from equipment drains, floor drains or trenches within a building into a sump, and

(b) that is not known to be free from contamination by,

(i) chemicals stored at a plant for use at the plant in an industrial process or in the maintenance or operation of industrial equipment, or

(ii) chemicals used at a plant in an industrial process or in the maintenance or operation of industrial equipment;

"potentially contaminated building effluent sampling point" means a location in a potentially contaminated building effluent stream situated,

(a) before the place of discharge to a surface watercourse,

(b) after any final treatment, and

(c) upstream of any significant contaminant masking or significant dilution by any other effluent;

"potentially contaminated building effluent stream" means potentially contaminated building effluent that flows from a sump through an open or closed channel;

"process change" means a change in equipment, production process or treatment process;

"process effluent" means,

(a) effluent that comes into contact by design with any industrial process, or

(b) effluent that is discharged from any pollution control system or device;

"temperature measurement point" means a location in a once- through cooling water effluent stream located before the place of discharge to a surface watercourse and downstream of any heat exchanger located on the stream;

(2) The definitions in section 1 of the General Effluent Monitoring Regulation that are not redefined in this Regulation apply to this Regulation.

(3) In the General Effluent Monitoring Regulation, insofar as it governs direct dischargers to whom this Regulation applies, "batch discharge effluent" means effluent in a batch discharge effluent stream.

(4) A reference in this Regulation to a column of a monitoring schedule for a stream is, in the case of a stream that is named in the schedule, a reference to a column headed by that stream's type and the name of the stream.

(5) A reference in this Regulation to a column of a monitoring schedule for a stream is, in the case of a stream that is not named in the schedule, a reference to a column headed by that stream's type and the designation "unnamed".

(6) For the purposes of subsections (4) and (5), stream types are the types referred to in subsection 4(1).

PURPOSE

2. The purpose of this Regulation is to establish a data base on effluent quality in the electric power generation sector that, along with other pertinent information, will be used to develop effluent limits for that sector and to quantify the mass loadings of monitored contaminants being discharged by that sector into surface watercourses.

APPLICATION

3.-(1) This Regulation applies only with respect to the plants listed in the Table in subsection (3) and only with respect to streams on which a sampling point or temperature measurement point is established under section 4, and, in addition,

(a) subsection 22(27) applies to each once-through cooling water effluent stream in each plant listed in the Table in subsection (3), whether or not a sampling point or temperature measurement point is established on the stream, and

(b) subsection 22(36) applies to each plant listed in Schedule DD, whether or not the plant is also listed in the Table in subsection (3).

(2) For the purposes of this Regulation, the plants to which this Regulation applies are divided into categories as set out in the Table in subsection (3).

(3) The monitoring schedule for each plant is as follows:

Table

Item	Plant	Location	Owner as of August 1, 1989	Monitoring Schedule
CATEGORY A				
1.	Atikokan TGS	Atikokan	Ontario Hydro	A
2.	J.C. Keith TGS	Windsor	Ontario Hydro	A
3.	Lakeview TGS	Mississauga	Ontario Hydro	A
4.	Lambton TGS	Courtright	Ontario Hydro	A
5.	Lennox TGS	S.Fredricksburgh	Ontario Hydro	A
6.	Nanticoke TGS	Nanticoke	Ontario Hydro	A
7.	R.L. Hearn TGS	Toronto	Ontario Hydro	A
8.	Thunder Bay TGS	Thunder Bay	Ontario Hydro	A
CATEGORY B				
9.	Aguasabon GS	Aguasabon River	Ontario Hydro	B
10.	Arnprior GS	Madawaska River	Ontario Hydro	B
11.	Decew Falls NF 23 GS	Welland Canal	Ontario Hydro	B
12.	Pine Portage GS	Nipigon River	Ontario Hydro	B
13.	Silver Falls GS	Kaministikwia R.	Ontario Hydro	B
14.	Sir Adam Beck 2 GS	Niagara River	Ontario Hydro	B
CATEGORY C				
15.	Bruce NGS-A	Tiverton	Ontario Hydro	C
16.	Bruce NGS-B	Tiverton	Ontario Hydro	C
17.	Darlington NGS	Bowmanville	Ontario Hydro	C
18.	Pickering NGS-A and B	Pickering	Ontario Hydro	C
CATEGORY D				
19.	Bruce Heavy Water Plants	Tiverton	Ontario Hydro	D
CATEGORY E				
20.	Bruce Nuclear Power Development-Services	Tiverton	Ontario Hydro	E
CATEGORY F				
21.	Darlington NGS (under construction)	Bowmanville	Ontario Hydro	F
CATEGORY G				
22.	Chalk River Nuclear Laboratories	Chalk River	Atomic Energy of Canada Ltd.	G

Item	Plant	Location	Owner as of August 1, 1989	Monitoring Schedule
CATEGORY H				
23.	Douglas Point WMF	Tiverton	Atomic Energy of Canada Ltd.	H
CATEGORY I				
24.	Nuclear Power Demonstration WMF	Rolphton	Atomic Energy of Canada Ltd.	I

(4) This Regulation is a Sectoral Effluent Monitoring Regulation within the meaning of the General Effluent Monitoring Regulation.

(5) Each direct discharger shall carry out the monitoring obligations of this Regulation, including the sampling, analysis, toxicity testing, flow measurement, recording and reporting obligations of this Regulation, in accordance with the General Effluent Monitoring Regulation.

(6) Each direct discharger shall carry out the sampling and analytical obligations in relation to samples to be analyzed for parameters in analytical test groups E1, E2 and E3 as set out in Schedule AA in accordance with Schedules BB and CC.

(7) In addition to complying with subsection 3(19) of the General Effluent Monitoring Regulation, each direct discharger shall use only sampling equipment for the collection of samples, the wettable surfaces of which are made of,

(a) fluorocarbon resins, glass or stainless steel for samples that are to be analyzed for parameters in analytical test group E3 as set out in Schedule AA; and

(b) fluorocarbon resins, glass, stainless steel, high or low density polyethylene, polyethylene terephthalate, polystyrene or polypropylene for samples that are to be analyzed for parameters in analytical test groups E1 and E2 as set out in Schedule AA.

(8) Despite subsection (7), a direct discharger may use sampling devices that contain a short section of surgical grade silicone rubber tubing or other tubing approved by the Director if such tubing cannot be replaced by a material mentioned in subsection (7) without impairing the operation of the device.

(9) For the purposes of subsections 3(22), (25a) and (26) of the General Effluent Monitoring Regulation,

(a) a sample collected for analysis for parameters in more than one analytical test group as set out in Schedule AA is deemed to be a sample collected for analysis for parameters in more than one analytical test group in Schedule 1 to the General Effluent Monitoring Regulation; and

(b) a laboratory sample container specified in Column 2 of Schedule BB to this Regulation is deemed to be a laboratory sample container specified in Column 2 of Schedule 2 to the General Effluent Monitoring Regulation.

(10) Instead of the minimum sample volumes specified in Column 5 of Schedule BB, a direct discharger may, in relation to a sample to be analyzed, submit to the laboratory performing the analysis the minimum sample volume required by the laboratory to meet the analytical method detection limits set out in Column 6 of Schedule CC.

(11) Each direct discharger shall carry out the monitoring obligations, including the sampling, analysis, toxicity testing, flow measurement, recording and reporting obligations of this Regulation in relation to boiler blowdown effluent and event discharge effluent in accordance with the methods specified in the General Effluent Monitoring Regulation in relation to process effluent.

(12) Each direct discharger shall carry out the monitoring obligations, including the sampling, analysis, flow measurement, recording and reporting obligations of this Regulation in relation to coal pile effluent in accordance with the methods specified in the General Effluent Monitoring Regulation in relation to storm water.

(13) Each direct discharger shall carry out the monitoring obligations, including the sampling, analysis, flow measurement, recording and reporting obligations of this Regulation in relation to equipment cleaning effluent and potentially contaminated building effluent in accordance with the methods specified in the General Effluent Monitoring Regulation in relation to waste disposal site effluent.

(14) Each direct discharger shall carry out the sampling and analytical obligations of this Regulation in relation to boron, lithium, strontium, bromodichloromethane, biphenyl and diphenyl ether in accordance with Notes A to F to Schedule AA.

(15) An obligation on a direct discharger to do a thing under this Regulation is discharged if another person has done it on the direct discharger's behalf.

(16) Sections 4 to 21 cease to apply in respect of a sampling point of a direct discharger where an approval is granted under subsection 24(1) of the Ontario Water Resources Act,

(a) to route the effluent stream on which the sampling point is established to a sewage works; or

(b) to eliminate the effluent stream on which the sampling point is established.

SAMPLING AND TEMPERATURE MEASUREMENT POINTS

4.-(1) Each direct discharger shall, by the 1st day of April, 1990, establish sampling points on effluent streams of the discharger, as follows:

1. A batch discharge effluent sampling point on each batch discharge effluent stream named in the monitoring schedule for the discharger's plant.

2. A boiler blowdown effluent sampling point on each boiler blowdown effluent stream in the discharger's plant.

3. A coal pile effluent sampling point on each coal pile effluent stream in the discharger's plant.

4. A chlorination sampling point on each once-through cooling water effluent stream that is periodically dosed by the discharger with sodium hypochlorite or chlorine and that passes through a turbine exhaust steam condenser.

5. A combined effluent sampling point on each combined effluent stream named in the monitoring schedule for the discharger's plant.

6. An emergency overflow effluent sampling point on each emergency overflow effluent stream in the discharger's plant.

7. An equipment cleaning effluent sampling point on each equipment cleaning effluent stream in the discharger's plant, in the case of the plants in Category A, C or E.

8. An equipment cleaning effluent sampling point on each equipment cleaning effluent stream named in the monitoring schedule for the discharger's plant, in the case of the plants in Category D or F.

9. An event discharge effluent sampling point on each event discharge effluent stream named in the monitoring schedule for the discharger's plant.

10. A once-through cooling water sampling point on the largest once-through cooling water effluent stream in the discharger's plant, in the case of all plants other than the plants in Category B and the plants referred to in subsection 3(3) as Lambton TGS, Lennox TGS and Pickering NGS-A and B.

11. A once-through cooling water sampling point on any two transformer once-through cooling water effluent streams in the discharger's plant, in the case of the plants referred to in subsection 3(3) as Decew Falls NF 23 GS and Sir Adam Beck 2 GS.

12. A once-through cooling water sampling point on the largest once-through cooling water effluent stream in the discharger's plant and on any two transformer once-through cooling water effluent streams in the discharger's plant, in the case of the plants referred to in subsection 3(3) as Lambton TGS and Lennox TGS.

13. A once-through cooling water sampling point on the streams referred to at the plant as the NGS-A Reactor Building Service Water Stream, the Auxiliary Irradiated Fuel Bay Service Water Stream, the Sulzer Service Water Area Stream, the U.P.P. Service Water Stream, the Condenser Cooling Water Units 1 and 2 Stream, the Condenser Cooling Water Unit 3 Stream and the Condenser Cooling Water Unit 4 Stream, in the case of the part of the plant known as Pickering NGS-A at the plant referred to in subsection 3(3) as Pickering NGS-A and B.

14. A once-through cooling water sampling point on the largest once-through cooling water effluent stream and on the stream referred to at the plant as the NGS-B Reactor Building Service Water Stream, in the case of the part of the plant known as Pickering NGS-B at the plant referred to in subsection 3(3) as Pickering NGS-A and B.

15. A potentially contaminated building effluent sampling point on each potentially contaminated building effluent stream in the discharger's plant.

16. A process effluent sampling point on each process effluent stream named in the monitoring schedule for the discharger's plant.

17. A storm water sampling point on each storm water effluent stream in the discharger's plant, in the case of all plants other than the plants in Category B or G.

18. A storm water sampling point on each storm water effluent stream named in the monitoring schedule for the discharger's plant, in the case of the plants in Category B or G.

19. A waste disposal site effluent sampling point on each waste disposal site effluent stream in the discharger's plant, in the case of all plants other than the plants in Category E or G.

20. A waste disposal site effluent sampling point on each waste disposal site effluent stream named in the monitoring schedule for the discharger's plant, in the case of the plants in Category E or G.

(2) A direct discharger who has more than one storm water catchment area with the same land use may, by the 1st day of April, 1990, instead of establishing sampling points on each storm water effluent stream that originates from each such catchment area as required by paragraph 17 of subsection (1), establish sampling points only on,

(a) each storm water effluent stream that originates from the dirtiest of those areas; and

(b) each storm water effluent stream that originates from any of those areas if it is named in the monitoring schedule for the discharger's plant.

(3) For the purpose of subsection (2), one catchment area is dirtier than another if the effluent that flows from it is more likely to harm the natural environment than the effluent that flows from the other area.

(4) A determination by a direct discharger under subsection (2) as to the relative dirtiness of two or more catchment areas in the discharger's plant is deemed to be accurate so long as it was made reasonably and in good faith.

(5) Subject to subsections 6(3), 11(3) and 20(8), each direct discharger shall use the sampling points established under subsections (1) and (2) for all sampling required by this Regulation, except that a direct discharger may use alternate sampling points where that is acceptable to the Director.

(6) Subject to subsections (7) and (8), in the case of the plants in Category A, C, D and G, each direct discharger shall, by the 1st day of April, 1990, establish a temperature measurement point on each once-through cooling water effluent stream on which the discharger is required by subsection (1) to establish a sampling point.

(7) In the case of the part of the plant known as Pickering NGS-A at the plant referred to in subsection 3(3) as Pickering NGS-A and B, a temperature measurement point need only be established on the largest once-through cooling water effluent stream and on the stream referred to at the plant as the NGS-A Reactor Building Service Water Stream.

(8) In the case of the part of the plant known as Pickering NGS-B at the plant referred to in subsection 3(3) as Pickering NGS-A and B, a temperature measurement point need only be established on the largest once-through cooling water effluent stream.

(9) Subject to subsection (11), each direct discharger shall collect each sample required to be collected from a process, combined or event discharge effluent sampling point as a composite sample in accordance with subsection 3(4) of the General Effluent Monitoring Regulation.

(10) Despite subsection 3(11), each direct discharger shall collect each sample required to be collected from a boiler blowdown effluent sampling point in accordance with clauses 3(4)(c), (d) or (e) of the General Effluent Monitoring Regulation.

(11) In the case of the plants in Category C, each direct discharger shall collect each sample required to be collected from an event discharge effluent sampling point as a single grab sample taken during the second half of a discharge in the stream.

(12) Each direct discharger shall collect all samples required to be collected by clause 6(1)(a), subsection 6(6) and sections 8, 9 and 10 from any process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent streams that flow into the same once-through cooling water effluent stream on the same days, to the extent that the sampling frequency requirements of this Regulation permit.

BOILER BLOWDOWN EFFLUENT MONITORING SCHEDULE

5.-(1) Where there are two or more boiler blowdown effluent streams in a plant, the direct discharger for the plant meets the monitoring requirements of sections 7 to 10 and 20 in relation to those streams during the period beginning the 1st day of June, 1990 and ending the 31st day of May, 1991 if the discharger monitors those streams in accordance with a schedule that ensures that,

(a) each boiler blowdown effluent stream in the plant is monitored under all of sections 7 to 10 and 20 throughout at least two months in the period; and

(b) at least one boiler blowdown effluent stream in the plant is monitored under all of sections 7 to 10 and 20 throughout each month in which boiler blowdown effluent is discharged from the discharger's plant in the period.

(2) For the purposes of clauses 1(a) and (b), a boiler blowdown effluent stream is monitored under all of sections 7 to 10 and 20 throughout a month if it is monitored under all of the sections throughout the same month.

(3) Where there are two or more boiler blowdown effluent streams in a plant, the direct discharger for the plant meets the monitoring requirements of section 7 in relation to those streams on and after the 1st day of June, 1991, if the discharger monitors only one of those streams.

(4) The part of the plant known as Pickering NGS-A and the part of the plant known as Pickering NGS-B, at the plant referred to in subsection 3(3) as Pickering NGS-A and B, are each plants within the meaning of subsections (1) and (3).

CHARACTERIZATION AND OPEN CHARACTERIZATION

6.-(1) Each direct discharger shall collect a set of samples sufficient to perform all of the analyses required by subsection (8) from each process effluent, combined effluent, event discharge effluent and batch discharge effluent sampling point of the discharger,

(a) on one operating day in each quarter; and

(b) once, on an operating day, within thirty days after every process change that is expected to adversely affect the quality of effluent at that sampling point.

(2) Subject to subsection (3), where a direct discharger has been unable to collect a set of samples from an event discharge effluent sampling point in any quarter as required by clause 6(1)(a) because of insufficient flow throughout the quarter, the discharger shall, as soon as possible, collect a compensating set of samples sufficient to perform all of the analyses required by subsection (8) from that sampling point, on an operating day on which a set of samples is not collected from that point under clause 6(1)(a).

(3) In the case of the plants referred to in subsection 3(3) as Lambton TGS and Lakeview TGS, where a direct discharger is unable to collect a set of samples from an event discharge effluent sampling point in any quarter as required by clause 6(1)(a) because of insufficient flow throughout the quarter, the discharger shall, during the quarter, collect a compensating set of samples sufficient to perform all of the analyses required by subsection (8) from the pond that feeds the stream on which the sampling point is situated.

(4) Samples collected under subsection (3) shall be collected at a location in the pond situated within ten metres of the mouth of the stream.

(5) Clause (1)(b) does not apply to experimental process changes of less than thirty days in duration.

(6) On one operating day in each quarter, each direct discharger shall collect a set of samples sufficient to perform all of the analyses required by subsection (8) from each boiler blowdown effluent sampling point of the discharger from which samples are collected under sections 7 to 10 and 20 in the month in which the operating day falls.

(7) For the purpose of subsection 4(3) of the General Effluent Monitoring Regulation, all samples collected under subsections (1) to (3) and (6) are collected for characterization.

(8) Each direct discharger shall perform a characterization and an open characterization on each set of samples collected under subsections (1) to (3) and (6).

(9) A direct discharger need only fulfill the requirements of clause (1)(a) and subsection (6) in four consecutive quarters.

(10) For the purposes of clause (1)(a) and subsection (6), samples collected from a sampling point after the first sample is collected from that sampling point under clause (1)(a) or subsection (6) shall be collected no sooner than six weeks and no later than four months after the previous sampling under clause (1)(a) or subsection (6) from that sampling point.

DAILY MONITORING

7.-(1) During each operating day, each direct discharger shall take a single grab sample from each sampling point on each process effluent stream indicated in the monitoring schedule for the discharger's plant as requiring analytical test group E2 daily monitoring, and shall analyze the sample for the parameters in analytical test group E2.

(2) During each operating day, each direct discharger shall collect a set of samples from each process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent sampling point of the discharger, and shall analyze each such set for the parameters indicated in the daily column, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(3) Subsection (2) does not apply in respect of a stream on any day on which a sufficient volume of sample cannot be collected from the stream because of the collection of inspection samples.

THRICE-WEEKLY MONITORING

8.-(1) On three operating days in each week, each direct discharger shall collect a set of samples sufficient to perform the analyses required by subsections (2) and (3) from each process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent sampling point of the discharger.

(2) Each direct discharger shall analyze each set of samples collected under subsection (1) for the parameters indicated in the thrice-weekly column, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(3) Each direct discharger for the plant referred to in subsection 3(3) as Nanticoke TGS shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from the stream referred to at the plant as the Ash Transport Water System Stream for the parameter selenium in analytical test group 10 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(4) In the case of a plant in Category C or F at which ammonia is not added to recirculating boiler water, a direct discharger need not analyze sets of samples collected under subsection (1) from a boiler blowdown effluent stream for the parameter ammonia plus ammonium in analytical test group 4a as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(5) In the case of a plant in Category C at which morpholine is not added to recirculating boiler water, a direct discharger need not analyze sets of samples collected under subsection (1) from a boiler blowdown effluent stream for the parameters in analytical test groups 5a and 5b as set out in Schedule 1 to the General Effluent Monitoring Regulation.

WEEKLY MONITORING

9.-(1) On one operating day in each week, each direct discharger shall collect a set of samples sufficient to perform the analyses required by subsections (2) to (6) from each process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent sampling point of the discharger.

(2) Each direct discharger shall analyze each set of samples collected under subsection (1) for the parameters indicated in the weekly column, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(3) Each direct discharger for the plant referred to in subsection 3(3) as Thunder Bay TGS shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from the streams referred to at the plant as the Water Treatment Plant Neutralization Sump Stream and the Ash Transport Water System Stream for the parameter chloroform in analytical test group 16 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(4) In the case of a plant in respect of which subsection 8(4) applies, each direct discharger shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from each boiler blowdown effluent stream of the discharger for the parameter ammonia plus ammonium in analytical test group 4a as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(5) In the case of a plant in respect of which subsection 8(5) applies, each direct discharger shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from each boiler blowdown effluent stream of the discharger for the parameters in analytical test groups 5a and 5b as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(6) Each direct discharger for the plant referred to in subsection 3(3) as Pickering NGS-A and B shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from the stream referred to at the plant as the Radioactive Liquid Waste Management Tanks Stream for the parameters cadmium and lead in analytical test group 9 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(7) Each set of samples collected under subsection (1) shall be collected on one of the days on which a sample is collected under subsection 8(1) from the same sampling point, if a sample is collected from that sampling point under subsection 8(1) in the week.

(8) For the purposes of subsection (1), samples collected from a sampling point after the first sample is collected from that sampling point under subsection (1) shall be collected no sooner than two days after the previous sampling under subsection (1) from that sampling point.

MONTHLY MONITORING

10.-(1) On one operating day in each month, each direct discharger shall collect a set of samples sufficient to perform the analyses required by subsections (2) and (3) from each process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent sampling point of the discharger.

(2) Each direct discharger shall analyze each set of samples collected under subsection (1) for the parameters indicated in the monthly column, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(3) Each direct discharger for the plant referred to in subsection 3(3) as Pickering NGS-A and B shall, in addition to performing the analyses required by subsection (2), analyze each set of samples collected under subsection (1) from the stream referred to at the plant as the Radioactive Liquid Waste Management Tanks Stream for the parameters in analytical test group 24 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(4) Each set of samples collected under subsection (1) shall be collected on one of the days on which a sample is collected under subsection 8(1) from the same sampling point, if a sample is collected from that sampling point under subsection 8(1) in the month.

(5) Each set of samples collected under subsection (1) shall be collected on one of the days on which a sample is collected under subsection 9(1) from the same sampling point, if a sample is collected from that sampling point under subsection 9(1) in the month.

(6) For the purposes of subsection (1), samples collected from a sampling point after the first sample is collected from that sampling point under subsection (1) shall be collected no sooner than two weeks after the previous sampling under subsection (1) from that sampling point.

EVENT DISCHARGE EFFLUENT MONITORING

11.-(1) On one operating day in each month, each direct discharger shall collect a set of samples from each event discharge effluent sampling point of the discharger, and shall analyze each such set for the parameters indicated in the column for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(2) Subject to subsection (3), where a direct discharger has been unable to collect a set of samples from an event discharge effluent sampling point in any month as required by subsection (1) because of insufficient flow throughout the month, the discharger shall, as soon as possible, collect a compensating set of samples from that sampling point, on an operating day on which a set of samples is not collected from that point under subsection (1), and shall analyze each such set for the parameters indicated in the column for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(3) In the case of the plants referred to in subsection 3(3) as Lambton TGS and Lakeview TGS, where a direct discharger is unable to collect a set of samples from an event discharge effluent sampling point in any month as required by subsection (1) because of insufficient flow throughout the month, the discharger shall, on an operating day during the month, collect a compensating set of samples from the pond that feeds the stream on which the sampling point is situated, and shall analyze each such set for the parameters indicated in the column for that stream, of the monitoring schedule for the discharger's plant.

(4) Samples collected under subsection (3) shall be collected at a location in the pond situated within ten metres of the mouth of the stream.

ONCE-THROUGH COOLING WATER MONITORING

12.-(1) On one operating day in each month, each direct discharger shall collect a set of samples from each once-through cooling water sampling point of the discharger, and shall analyze each such set for the parameters indicated in the monthly column, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(2) Each set of samples collected under subsection (1) from a once-through cooling water effluent stream shall be collected on one of the days on which a sample is collected under subsection 10(1) from a stream that flows into that once-through cooling water effluent stream, if any.

(3) For the purpose of subsection (1), samples collected from a sampling point after the first sample is collected from that sampling point under subsection (1) shall be collected no sooner than two weeks after the previous sampling from that sampling point under subsection (1)

(4) Each direct discharger who periodically doses once-through cooling water effluent streams with sodium hypochlorite or chlorine shall collect a single grab sample during the second half of each dosing period from an affected chlorination sampling point of the discharger, and shall analyze the sample for the parameter in analytical test group E2 as set out in Schedule AA.

TEMPERATURE MEASUREMENT - GENERAL

13.-(1) Each direct discharger shall, throughout each operating day, continuously measure the temperature of the effluent at each temperature measurement point established under subsections 4(6) to (8) for the discharger's plant, and shall calculate hourly temperature averages for each point based on readings taken at intervals no greater than fifteen minutes throughout each operating day.

(2) Each direct discharger shall, throughout each operating day, continuously measure the temperature of water taken into the discharger's plant directly from a surface watercourse, and shall calculate hourly intake water temperature averages based on readings taken at intervals no greater than fifteen minutes throughout each operating day.

(3) Each direct discharger shall calculate a temperature rise for each hour of each operating day in relation to each temperature measurement point, by subtracting the intake water temperature average for the hour as calculated under subsection (2) from the temperature average for the hour for that point as calculated under subsection (1).

(4) Each direct discharger shall, based on the calculations made under subsections (1) to (3), calculate and record the following:

1. An average temperature rise in relation to each temperature measurement point for each operating day, being the average of the hourly temperature rises calculated under subsection (3) in relation to that point on that day.

2. A minimum temperature rise in relation to each temperature measurement point for each operating day, being the lowest of the hourly temperature rises calculated under subsection (3) in relation to that point on that day.

3. A maximum temperature rise in relation to each temperature measurement point for each operating day, being the highest of the hourly temperature rises calculated under subsection (3) in relation to that point on that day.

4. An average intake water temperature for each operating day, being the average of the hourly averages calculated under subsection (2) on that day.

5. A minimum intake water temperature for each operating day, being the lowest of the hourly averages calculated under subsection (2) on that day.

6. A maximum intake water temperature for each operating day, being the highest of the hourly averages calculated under subsection (2) on that day.

7. An average temperature for each temperature measurement point for each operating day, being the average of the hourly averages calculated under subsection (1) for that point on that day.

8. A minimum temperature for each temperature measurement point for each operating day, being the lowest of the hourly averages calculated under subsection (1) for that point on that day.

9. A maximum temperature for each temperature measurement point for each operating day, being the highest of the hourly averages calculated under subsection (1) for that point on that day.

(5) Where on any operating day a direct discharger cannot meet a requirement to continuously measure the temperature of the effluent at a temperature measurement point under subsection (1) or to continuously measure the temperature of intake water under subsection (2), because of equipment malfunction and all reasonable care has been taken to avoid and correct the malfunction, or because of necessary equipment maintenance carried out with despatch, the discharger may instead,

(a) at intervals no greater than one hour throughout the day, take compensating temperature measurements of the effluent or intake water, as the case may be; or

(b) using an energy balance, make a compensating temperature calculation for the day for the effluent or intake water, as the case may be.

(6) Where the taking of temperature measurements or the calculation of temperature under subsection (5) makes it impossible for a direct discharger to calculate a value required to be calculated and recorded under subsection (4), the discharger may instead use the data obtained under subsections (1) to (5) to calculate and record the closest possible approximation of that value.

(7) Each direct discharger shall use a resistance temperature detector or an instrument of equivalent accuracy when measuring temperature under subsections (1) and (2).

(8) This section does not apply in respect of plants in Category B, E, F, G, H or I.

TEMPERATURE MEASUREMENT - CHALK RIVER NUCLEAR LABORATORIES

14.-(1) This section applies only in respect of the plant in Category G.

(2) Each direct discharger shall, throughout each operating day, continuously measure and record the temperature of the effluent at the temperature measurement point established under subsection 4(6) for the discharger's plant.

(3) Each direct discharger shall examine the record generated under subsection (2) for each operating day and shall, based on the examination, select the hour during the day during which the temperature of the effluent at the temperature measurement point appears to have been, on average, the highest.

(4) Each direct discharger shall calculate the average temperature of the effluent at the temperature measurement point during the hour selected for each operating day under subsection (3), and shall record the calculated average as the daily maximum temperature at the temperature measurement point.

(5) Each direct discharger shall, throughout each operating day, continuously measure and record the temperature of water taken into the plant directly from a surface watercourse, and shall calculate and record an intake water temperature average for each operating day based on a minimum of eight readings taken at approximately equal time intervals throughout the day.

(6) Each direct discharger shall calculate and record a temperature rise for each operating day by subtracting the intake water temperature average for the day as calculated under subsection (5) from the maximum temperature at the temperature measurement point for the day, as calculated under subsection (4).

(7) Where on any operating day a direct discharger cannot meet the requirement to continuously measure the temperature of the effluent at the temperature measurement point under subsection (2) or to continuously measure the temperature of intake water under subsection (5), because of equipment malfunction and all reasonable care has been taken to avoid and correct the malfunction, or because of necessary equipment maintenance carried out with despatch, the discharger may instead,

(a) at intervals no greater than eight hours throughout the day, take compensating temperature measurements of the effluent or intake water, as the case may be; or

(b) using an energy balance, make a compensating temperature calculation for the day for the effluent or intake water, as the case may be.

(8) Where the taking of temperature measurements or the calculation of temperature under subsection (7) makes it impossible for a direct discharger to calculate a value required to be calculated and recorded under subsections (4) to (6), the discharger may instead use the data obtained under subsections (2) to (7) to calculate and record the closest possible approximation of that value.

(9) Each direct discharger shall use a resistance temperature detector or an instrument of equivalent accuracy when measuring temperature under subsections (2) and (5).

MONTHLY MONITORING - STORM WATER AND COAL PILE EFFLUENT

15.-(1) On one operating day in each month, each direct discharger shall collect a set of samples sufficient to perform the analyses required by subsections (3) to (5) from each storm water sampling point and coal pile effluent sampling point of the discharger.

(2) Where a direct discharger has been unable to collect a set of samples from a storm water sampling point or a coal pile effluent sampling point in any month as required by subsection (1) because of insufficient flow throughout the month, the discharger shall, as soon as possible, collect a compensating set of samples from that sampling point, on an operating day on which a set of samples is not collected from that point under subsection (1), sufficient to perform the analyses required by subsections (3) to (5).

(3) Each direct discharger shall analyze each set of samples collected under subsections (1) and (2) for the parameters indicated in the column for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(4) Each direct discharger for the plant referred to in subsection 3(3) as R.L. Hearn TGS shall, in addition to performing the analyses required by subsection (3), analyze each set of samples collected under subsections (1) and (2) from each storm water effluent stream of the discharger for the parameters 2-methylnaphthalene and naphthalene in analytical test group 19 as set out in Schedule 1 to the General Effluent Monitoring Regulation and for the parameters in analytical test group 24 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(5) Each direct discharger for the plants referred to in subsection 3(3) as Decew Falls NF 23 GS and Sir Adam Beck 2 GS shall, in addition to performing the analyses required by subsection (3), analyze each set of samples collected under subsections (1) and (2) from the streams referred to at each plant as the Transformer Yard Drain Stream for the parameter o-Xylene and for the parameter m-Xylene and p-Xylene, both in analytical test group 17 as set out in Schedule 1 to the General Effluent Monitoring Regulation.

(6) Each direct discharger shall make every reasonable effort to ensure that the samples collected under subsection (1) from each storm water and coal pile effluent sampling point of the discharger in at least two of the months of January, February, March, April and May are collected during a thaw with collection during the second thaw to occur no sooner than two weeks after collection during the first thaw.

WASTE DISPOSAL SITE EFFLUENT MONITORING

16.-(1) On one operating day in each month, each direct discharger shall collect a set of samples from each waste disposal site effluent sampling point of the discharger, during a discharge that affects the sampling point, and shall analyze each such set for the parameters indicated in the column for the stream from which the set was collected of the monitoring schedule for the discharger's plant.

(2) Subsection (1) does not apply in respect of a stream during any month in which a sufficient volume of sample cannot be collected from the stream because of lack of flow.

EQUIPMENT CLEANING EFFLUENT AND POTENTIALLY CONTAMINATED BUILDING EFFLUENT MONITORING

17.-(1) On one operating day in each month, each direct discharger shall collect a set of samples from each equipment cleaning effluent and potentially contaminated building effluent sampling point of the discharger, during a discharge that affects the sampling point, and shall analyze each such set for the parameters indicated in the column for the stream from which the set was collected of the monitoring schedule for the discharger's plant.

(2) Subsection (1) does not apply in respect of a stream during any month in which a sufficient volume of sample cannot be collected from the stream because of lack of flow.

EMERGENCY OVERFLOW EFFLUENT MONITORING

18.-(1) During each emergency overflow, each direct discharger shall collect a set of samples from each affected emergency overflow effluent sampling point of the discharger, and shall analyze each such set for the parameters indicated in the column for the stream from which the set was collected of the monitoring schedule for the discharger's plant.

(2) Subsection (1) does not apply if the collection of samples would result in extraordinary danger to health or safety.

QUALITY CONTROL MONITORING

19.-(1) Each direct discharger shall select, for the purpose of this section, the process effluent stream in respect of which the monitoring schedule for the discharger's plant indicates the largest number of parameters to be analyzed for in analytical test groups 16 to 20, 23, 24 and 27.

(2) If a direct discharger's plant has no process effluent stream in respect of which a parameter in analytical test groups 16 to 20, 23, 24 and 27 is required to be analyzed for, the discharger shall instead select the process effluent stream in respect of which the monitoring schedule for the discharger's plant indicates the largest number of parameters to be analyzed for in all analytical test groups.

(3) If a direct discharger's plant has no process effluent stream, the discharger shall instead select the combined effluent stream in respect of which the monitoring schedule for the discharger's plant indicates the largest number of parameters to be analyzed for in analytical test groups 16 to 20, 23, 24 and 27.

(4) If a direct discharger's plant has no process effluent stream, and has no combined effluent stream in respect of which a parameter in analytical test groups 16 to 20, 23, 24 and 27 is required to be analyzed for, the discharger shall instead select the combined effluent stream in respect of which the monitoring schedule for the discharger's plant indicates the largest number of parameters to be analyzed for in all analytical test groups.

(5) For the purposes of subsections (6) and (7), where a direct discharger collects a composite sample using an automatic composite sampling device, the discharger may, instead of collecting a duplicate sample, remove an aliquot from each sample container used to collect the sample, in which case the discharger shall analyze the aliquots as if they were duplicate samples.

(6) Once in each month, on the day on which samples are collected under section 10 from the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, each direct discharger shall collect a duplicate sample for each sample collected on that day from that sampling point under sections 7 and 8, and shall analyze the set of duplicate samples for the parameters indicated in the daily and thrice-weekly columns, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(7) Once in each quarter, on a day on which duplicate samples are collected under subsection (6), each direct discharger shall collect a duplicate sample for each sample collected on that day under sections 9 and 10 from the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, and shall analyze the set of duplicate samples for the parameters indicated in the weekly and monthly columns, for the stream from which the set was collected, of the monitoring schedule for the discharger's plant.

(8) Once in each month, on the day on which duplicate samples are collected under subsection (6), each direct discharger shall prepare a travelling blank sample for each sample collected on that day under sections 7 and 8 from the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, and shall analyze the set of travelling blank samples for the parameters indicated in the daily and thrice-weekly columns, for the stream from which the samples for which the travelling blank samples were prepared were collected, of the monitoring schedule for the discharger's plant.

(9) Once in each quarter, on the day on which duplicate samples are collected under subsection (7), each direct discharger shall prepare a travelling blank sample for each sample collected on that day under sections 9 and 10 from the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, and shall analyze the set of travelling blank samples for the parameters indicated in the weekly and monthly columns, for the stream from which the samples for which the travelling blank samples were prepared were collected, of the monitoring schedule for the discharger's plant.

(10) Despite subsections (8) and (9), a direct discharger need not analyze a travelling blank sample for the parameters in analytical test groups 3 and 8 as set out in Schedule AA.

(11) Once in each month, on the day on which duplicate samples are collected under subsection (6), each direct discharger shall prepare a travelling spiked blank sample for each sample collected on that day under sections 7 and 8 from the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, and shall analyze the set of travelling spiked blank samples for the parameters in analytical test groups 16 to 20, 23, 24 and 27 indicated in the daily and thrice-weekly columns, for the stream from which the samples for which the travelling spiked blank samples were prepared were collected, of the monitoring schedule for the discharger's plant.

(12) Once in each quarter, on the day on which duplicate samples are collected under subsection (7), each direct discharger shall prepare a travelling spiked blank sample for each sample collected on that day under sections 9 and 10 frcm the sampling point on the effluent stream selected under subsections (1) to (4), if any stream is so selected, and shall analyze the set of travelling spiked blank samples for the parameters in analytical test groups 16 to 20, 23, 24 and 27 indicated in the weekly and monthly columns, for the stream from which the samples for which the travelling spiked blank sample were prepared were collected, of the monitoring schedule for the discharger's plant.

(13) A direct discharger need only fulfill the requirements of subsections (7), (9) and (12) in four consecutive quarters.

TOXICITY TESTING

20.-(1) Each direct discharger shall collect a sample from each process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent sampling point of the discharger once in each month, on the day on which samples are collected under section 10 from that sampling point, and shall perform a fish toxicity test and a Daphnia magna acute lethality toxicity test on each sample collected under this subsection.

(2) If each fish toxicity test performed under subsection (1) on all samples collected from a process effluent, combined effluent or batch discharge effluent sampling point in three consecutive months results in mortality for no more than two out of ten fish at all effluent concentrations, a direct discharger may thereafter perform the fish toxicity tests required by subsection (1) on the samples from that sampling point, on 100 per cent undiluted samples only.

(3) If a fish toxicity test performed under subsection (2) on any sample from a process effluent, combined effluent or batch discharge effluent sampling point results in mortality for more than two out of ten fish, subsection (2) ceases to apply and continues not to apply to samples from that sampling point, until the fish toxicity tests performed under subsection (1) on all samples from that sampling point in a further three consecutive months result in mortality for no more than two out of ten fish at all effluent concentrations.

(4) Subsections (1) to (3) do not apply in relation to any process effluent stream that passes through an ash transport water system.

(5) Subsections (1) to (3) do not apply in relation to the stream referred to at the plant in Category E as the Condensate Plant Water Treatment Plant Stream.

(6) Each direct discharger shall collect a sample from each event discharge effluent sampling point of the discharger once in each month in which samples are collected from that point under subsection 11(1), on the day on which samples are collected from that point under subsection 11(1) in the month, and shall perform a fish toxicity test and a Daphnia magna acute lethality toxicity test on each sample collected under this subsection.

(7) Each direct discharger shall collect a sample from each event discharge effluent sampling point of the discharger from which samples are collected under subsection 11(2), on each day on which samples are collected from that point under subsection 11(2), and shall perform a fish toxicity test and a Daphnia magna acute lethality toxicity test on each sample collected under this subsection.

(8) Each direct discharger shall collect a sample from each pond that feeds an event discharge effluent stream of the discharger once in each month in which samples are collected from that pond under subsection 11(3), on the day on which samples are collected from that pond under subsection 11(3) in the month, and shall perform a fish toxicity test and a Daphnia magna acute lethality toxicity test on each sample collected under this subsection.

(9) If each of three successive fish toxicity tests performed under subsections (6) to (8) on all samples collected from an event discharge effluent sampling point and the pond that corresponds to it results in mortality for no more than two out of ten fish at all effluent concentrations, a direct discharger may thereafter perform the fish toxicity tests required by subsections (6) to (8) on the samples from that sampling point and pond, on 100 per cent undiluted samples only.

(10) If a fish toxicity test performed under subsection (9) on any sample from an event discharge effluent sampling point or the pond that corresponds to it results in mortality for more than two out of ten fish, subsection (9) ceases to apply and continues not to apply to samples from that sampling point and pond, until a further three successive fish toxicity tests performed under subsections (6) to (8) on all samples from that sampling point and pond result in mortality for no more than two out of ten fish at all effluent concentrations.

(11) Subsections (6) to (10) do not apply in relation to any event discharge effluent stream at the plants referred to in subsection 3(3) as Bruce NGS-A and Bruce NGS-B that discharges into a radioactive liquid waste management system tank or in relation to any event discharge effluent stream at the plant in Category D that discharges into the stream referred to at the plant as the Bruce Heavy Water Plant Process Effluent Stream.

(12) Each direct discharger shall collect a sample from each once-through cooling water sampling point of the discharger once in each quarter, on a day on which samples are collected under section 12 from that sampling point, and shall perform a fish toxicity test and a Daphnia magna acute lethality toxicity test on each sample collected under this subsection.

(13) If the fish toxicity test performed in the first quarter under subsection (12) on the sample from a once-through cooling water sampling point results in mortality for no more than two out of ten fish at all effluent concentrations, a direct discharger may thereafter perform the fish toxicity test required by subsection (12) on the samples from that sampling point, on 100 per cent undiluted samples only.

(14) If a test performed under subsection (13) on any sample from a once-through cooling water sampling point results in mortality for more than two out of ten fish, subsection (13) ceases to apply in respect of samples from that sampling point.

(15) A direct discharger need only fulfill the requirements of subsection (12) in four consecutive quarters.

FLOW MEASUREMENT

21.-(1) Each direct discharger shall, throughout each operating day, continuously measure the flow of each process effluent stream of the discharger at a location or set of locations representative of the flow at the sampling point established for the stream, and shall continuously record the measured flow.

(2) Where the flow of a process effluent stream cannot be continuously measured on any operating day because of equipment malfunction and all reasonable care has been taken to avoid and correct the malfunction, or because of necessary equipment maintenance carried out with despatch, the direct discharger may fulfill the requirement of subsection (1) by estimating the total volume of effluent discharged on that day from that stream and recording the estimate.

(3) Each direct discharger shall, at the time of each sampling under this Regulation from each once-through cooling water, boiler blowdown, combined and batch discharge effluent stream of the discharger, measure or estimate the flow of the stream at a location or set of locations representative of the flow at the sampling point established for the stream, and shall record the measured or estimated data.

(4) Each direct discharger shall measure or estimate the duration and volume of each discharge of storm water, coal pile effluent, event discharge effluent, emergency overflow effluent, equipment cleaning effluent, potentially contaminated building effluent and waste disposal site effluent in respect of which the discharger has taken a sample under this Regulation, and shall record the measured or estimated data.

(5) Despite subsection 3(11) of this Regulation and subsection 6(1) of the General Effluent Monitoring Regulation, a direct discharger need not measure the flow of an event discharge effluent stream or of a boiler blowdown effluent stream continuously.

(6) Despite subsection 6(6) of the General Effluent Monitoring Regulation, each direct discharger shall use methods, devices or calculations for the measurement or estimation of the flow of a batch discharge effluent stream that are capable of accuracy to within plus or minus 7 per cent of the actual flow.

(7) Subsection 6(6) of the General Effluent Monitoring Regulation does not apply in respect of measurements or estimates of the volume of discharges of storm water or coal pile effluent.

(8) Subject to subsection (9), each direct discharger shall demonstrate by calibration, performed no earlier than 365 days before the filing of this Regulation and no later than thirty days before the first use of the device for the purposes of this Regulation, that each primary flow measuring device used to measure the flow of a process effluent stream for the purposes of this Regulation, meets the accuracy requirement of subsection 6(1) of the General Effluent Monitoring Regulation.

(9) Where a direct discharger demonstrates to the Director, by means of a certified report of a registered professional engineer of the Province of Ontario, that a primary flow measuring device has been designed and installed in accordance with the standards of a national or international standards setting organization, that primary flow measuring device will be deemed capable of meeting the accuracy requirement of subsection 6(1) of the General Effluent Monitoring Regulation.

(10) Subject to subsection (11), each direct discharger shall demonstrate by calibration, performed no earlier than 365 days before the filing of this Regulation and no later than thirty days before the first use of the device for the purposes of this Regulation, that each flow measuring device used to measure the flow of a combined effluent stream for the purposes of this Regulation, meets the accuracy requirement of subsection 6(3) of the General Effluent Monitoring Regulation.

(11) Where a direct discharger demonstrates to the Director, by means of a certified report of a registered professional engineer of the Province of Ontario, that a flow measuring device has been designed and installed in accordance with the standards of a national or international standards setting organization, that flow measuring device will be deemed capable of meeting the accuracy requirement of subsection 6(3) of the General Effluent Monitoring Regulation.

REPORTING

22.-(1) Each direct discharger shall, by the 1st day of April, 1990, submit to the Director four copies of an initial report in respect of the discharger's plant.

(2) Each direct discharger shall ensure that the plans submitted under paragraph 1 of subsection 7(1) of the General Effluent Monitoring Regulation identify by type each effluent stream on which the discharger establishes a sampling point or a temperature measurement point under section 4.

(3) In addition to meeting the requirements of subsection 7(1) of the General Effluent Monitoring Regulation, each direct discharger shall include the following information in the initial report submitted under subsection (1):

1. One or more plot plans, along with supporting text, showing the location of each storm water catchment area within the discharger's plant, the land uses of those areas, the storm water effluent streams that drain those areas, the sampling points established on those streams and the points at which those streams discharge from the plant.

2. One or more plot plans, along with supporting text, showing the location of all temperature measurement points established by the discharger under subsections 4(6) to (8).

(4) Each direct discharger shall notify the Director in writing of any significant changes in respect of the information submitted under subsections (1) to (3), within thirty days after the end of the month during which the change occurs.

(5) Each direct discharger shall notify the Director in writing of any change of name or ownership of its plant occurring after the 1st day of August, 1989, within thirty days after this Regulation comes into force or within thirty days after any such change.

(6) Each direct discharger shall, no later than thirty days after the event, notify the Director in writing of any process change that occurs after the day this Regulation comes into force, if the change,

(a) may adversely affect the quality of the effluent in any effluent stream on which the discharger establishes a sampling point or a temperature measurement point under section 4; or

(b) results in the creation of a new effluent stream in the plant.

(7) Each direct discharger shall, no later than the 15th day of May, 1990 or thirty days before the event, notify the Director in writing of any redirection of or change in the type of any effluent stream on which the discharger establishes a sampling point or a temperature measurement point under section 4, if the redirection or change occurs on or after the 1st day of April, 1990.

(8) For the purposes of subsections (2) and (7), effluent stream types are the types mentioned in subsection 4(1).

(9) Despite subsection (7), a direct discharger need not notify the Director of any redirection of an effluent stream to an emergency overflow effluent stream.

(10) Each direct discharger shall report to the Director the results of all analyses performed by or on behalf of the discharger under sections 6 to 19 of this Regulation, including all positive numerical values at or above the analytical method detection limits calculated by the laboratory performing the analysis, together with the date on which each sample was collected and the method used to collect each sample.

(11) When reporting the results of analyses of a sample collected under section 15, each direct discharger shall submit to the Director a written statement indicating whether the sample was collected during a thaw.

(12) Each direct discharger shall, in accordance with subsection 7(6) of the General Effluent Monitoring Regulation, report to the Director the toxicity test information obtained under section 20, together with the date on which each sample was collected under section 20.

(13) The information required to be reported under subsection (12) constitutes results of analyses within the meaning of subsection 7(2) of the General Effluent Monitoring Regulation.

(14) Each direct discharger shall report to the Director each temperature value calculated and recorded under subsections 13(4), 13(6), 14(4) to (6) and 14(8), together with the date on which each temperature measurement to which each value relates was taken, within sixty days after the day on which the information necessary to calculate the value became available to the discharger.

(15) Each direct discharger shall report the information required to be reported under subsection (14) on a floppy diskette in a format acceptable to the Director and by hard copy generated from that diskette and signed by the discharger.

(16) Each direct discharger shall report in writing to the Director any action taken under subsections 13(5) and (6) and 14(7) and (8), together with the date on which the action was taken, within sixty days after each such action.

(17) Each direct discharger shall submit to the Director documentation of any calibration or certification of accuracy required by subsections 21(8) to (11) of this Regulation and subsection 6(2) of the General Effluent Monitoring Regulation, no later than thirty days before the first use of the device for the purposes of this Regulation.

(18) Each direct discharger shall, with respect to each method, device or calculation for flow measurement or estimation used in meeting the requirements of this Regulation, other than methods, devices or calculations to be used to measure or estimate the volume of discharges of storm water and coal pile effluent, submit to the Director, no later than sixty days before the first use of the method, device or calculation for the purposes of this Regulation, documentation sufficient to satisfy the Director that the method, device or calculation complies with the accuracy requirements of subsections 6(3) and (6) of the General Effluent Monitoring Regulation and subsection 21(6) of this Regulation.

(19) Each direct discharger shall, no later than the 1st day of April, 1990, submit to the Director a description of the methods, devices and calculations to be used in measuring or estimating the volume of discharges of storm water and coal pile effluent under subsection 21(4), together with an assessment of the accuracy of those methods, devices and calculations.

(20) Each direct discharger shall submit to the Director documentation of each calibration performed under subsection 6(7) of the General Effluent Monitoring Regulation, by the 1st day of April, 1990 or within thirty days after the calibration was performed.

(21) Each direct discharger shall report to the Director the flow measurement information recorded under subsections 21(1) to (3), together with the date on which each flow was measured or estimated.

(22) Each direct discharger shall submit to the Director a description of any methods, devices and calculations used in estimating the volume of a discharge of effluent under subsection 21(2), together with an assessment of the accuracy of those methods, devices and calculations, within sixty days after each such estimation.

(23) Each direct discharger shall report to the Director the information required to be recorded under subsection 21(4) together with the date and location of each discharge measured or estimated under subsection 21(4), within sixty days after the occurrence of each such discharge.

(24) Each direct discharger shall report in writing to the Director the date, approximate duration and amount of rainfall of each storm event that occurs during the period beginning on the 1st day of June, 1990 and ending on the 31st day of May, 1991, within sixty days after each such storm event.

(25) Each direct discharger shall submit to the Director, at least thirty days before the first day of each month, a written schedule of intended sampling dates by sampling point location for all sampling to be done under sections 6, 10, 11, 12 and 20 in that month.

(26) Each direct discharger shall make every reasonable effort to follow the schedule submitted under subsection (25) but if the schedule cannot be followed as submitted, the discharger shall notify the Director promptly of any change in dates.

(27) Within sixty days after the end of each quarter, each direct discharger shall submit a report to the Director stating the quantities of chemicals added during each month in the quarter to each once-through cooling water effluent stream in the discharger's plant, whether or not the stream is one on which the discharger establishes a sampling point or temperature measurement point under section 4, and stating the dates and locations at which these additions occurred.

(28) A direct discharger need only fulfill the requirements of subsection (27) in respect of months in the period beginning the 1st day of June, 1990 and ending the 31st day of May, 1991.

(29) Each direct discharger shall, by the 30th day of June, 1991, submit a written report to the Director describing the variation in daily flow for a period of at least six months for each process effluent stream from which samples are collected under this Regulation other than by means described in clauses 3(4)(a), (b) and (e) of the General Effluent Monitoring Regulation.

(30) The report referred to in subsection (29) shall include the raw data and calculation methods used to produce the report.

(31) Each direct discharger shall keep records of all sampling required by this Regulation, including, for each sample, the date, the time of collection, the sampling procedures used, the amount of sample dilution by preservative if dilution exceeds one per cent, and any incident likely to affect an analytical result.

(32) Each direct discharger shall develop a maintenance and calibration schedule for all sampling and flow measurement equipment and shall record the dates on which any maintenance and calibration action was taken, together with a description of the action.

(33) Each direct discharger shall keep records of all analytical methods used in meeting the requirements of this Regulation.

(34) Each direct discharger shall submit a written report to the Director detailing the date, duration and cause of each sampling, toxicity testing, analytical and flow measurement malfunction or other problem that interferes with fulfilling the requirements of this Regulation, together with a description of any remedial action taken, within sixty days after the day on which the malfunction or problem occurs.

(35) Each direct discharger shall keep all records and reports required by this Regulation to be kept or made for a period of two years following the date of the last report submitted to the Director under this section.

(36) Within sixty days after the end of each quarter, each direct discharger for each hydraulic generating plant listed in Schedule DD shall submit a written report to the Director stating the quantities, in kilograms, of oil and grease, seal oils, lubricants, transformer oils, hydraulic fluids and bulk chemicals used in the plant during each month in the quarter.

(37) A direct discharger need only fulfill the requirements of subsection (36) in respect of months in the period beginning the 1st day of June, 1990 and ending the 31st day of May, 1991.

(38) Each direct discharger shall report flow measurement information recorded under subsections 21(1) to (3) as the total volume of effluent discharged per operating day in cubic metres per day.

COMMENCEMENT

23.-(1) This Regulation, except sections 6 to 20 and subsections 21(1) to (7), comes into force on the day on which it is filed.

(2) Sections 6 to 20 and subsections 21(1) to (7) come into force on the 1st day of June, 1990.

REVOCATION

24. Subsections 6(1), (5), (6), (9) and (10), sections 8 to 10, subsection 11(1), section 12, subsection 15(1), sections 16 to 19, and subsections 20(1) to (6) and (12) to (15) are revoked on the 1st day of June, 1991.

SCHEDULE AA - MONITORING PARAMETERS - ELECTRIC POWER GENERATION SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
#	ANALYTICAL TEST GROUP NAME	PARAMETERS	CAS #s †
1	Chemical Oxygen Demand	Chemical oxygen demand (COD)	N/A
2	Total cyanide	Total cyanide	57-12-5
3	Hydrogen ion (pH)	Hydrogen ion (pH)	N/A
4a	Nitrogen	Ammonia plus Ammonium	N/A
		Total Kjeldahl nitrogen	N/A
4b		Nitrate + Nitrite	N/A
5a	Organic carbon	Dissolved organic carbon (DOC)	N/A
5b		Total organic carbon (TOC) (NOTE 1)	N/A
6	Total phosphorus	Total phosphorus	7723-14-0
7	Specific conductance	Specific conductance	N/A
8	Suspended solids	Total suspended solids (TSS)	N/A
		Volatile suspended solids (VSS)	N/A
9	Total metals	Aluminum	7429-90-5
		Beryllium	7440-41-7
		Boron (NOTE A)	7440-42-8
		Cadmium	7440-43-9
		Chromium	7440-47-3
		Cobalt	7440-48-4
		Copper	7440-50-8
		Lithium (NOTE B)	7439-93-2
		Lead	7439-92-1
		Molybdenum	7439-98-7

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
9	Total metals (continued)	Nickel	7440-02-0
		Silver	7440-22-4
		Strontium (NOTE C)	7440-24-6
		Thallium	7440-28-0
		Vanadium	7440-62-2
		Zinc	7440-66-6
10	Hydrides	Antimony	7440-36-0
		Arsenic	7440-38-2
		Selenium	7782-49-2
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)	7440-47-3
12	Mercury	Mercury	7439-97-6
14	Phenolics (4AAP)	Phenolics (4AAP)*	N/A
15	Sulphide	Sulphide	N/A
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane	79-34-5
		1,1,2-Trichloroethane	79-00-5
		1,1-Dichloroethane	75-34-3
		1,1-Dichloroethylene	75-35-4
		1,2-Dichlorobenzene	95-50-1
		1,2-Dichloroethane (Ethylene dichloride)	107-06-2
		1,2-Dichloropropane	78-87-5
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7
		Bromodichloromethane (NOTE D)	75-27-4
		Bromoform	75-25-2
		Bromomethane	74-83-9
		Carbon tetrachloride	56-23-5

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
16	Volatiles, Halogenated (continued)	Chlorobenzene	108-90-7
		Chloroform	67-66-3
		Chloromethane	74-87-3
		Cis-1,3-Dichloropropylene	10061-01-5
		Dibromochloromethane	124-48-1
		Ethylene dibromide	106-93-4
		Methylene chloride	75-09-2
		Tetrachloroethylene (Perchloroethylene)	127-18-4
		Trans-1,2-Dichloroethylene	156-60-5
		Trans-1,3-Dichloropropylene	10061-02-6
		Trichloroethylene	79-01-6
		Trichlorofluoromethane	75-69-4
		Vinyl chloride (Chloroethylene)	75-01-4
17	Volatiles, Non-Halogenated	Benzene	71-43-2
		Styrene	100-42-5
		Toluene	108-88-3
		o-Xylene	95-47-6
		m-Xylene and p-Xylene	108-38-3 & 106-42-3
19	Extractables, Base Neutral	Acenaphthene	83-32-9
		5-nitro Acenaphthene	602-87-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(a)pyrene	50-32-8
		Benzo(b)fluoranthene	205-99-2
		Benzo(g,h,i)perylene	191-24-2
		Benzo(k)fluoranthene	207-08-9
		Biphenyl (NOTE E)	92-52-4
		Camphene	79-92-5

SCHEDULE AA - MONITORING PARAMETERS - ELECTRIC POWER GENERATION SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
19	Extractables, Base Neutral (continued)	1-Chloronaphthalene	90-13-1
		2-Chloronaphthalene	91-58-7
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		Fluoranthene	206-44-0
		Fluorene	86-73-7
		Indeno(1,2,3-cd)pyrene	193-39-5
		Indole	120-72-9
		1-Methylnaphthalene	90-12-0
		2-Methylnaphthalene	91-57-6
		Naphthalene	91-20-3
		Perylene	198-55-0
		Phenanthrene	85-01-8
		Pyrene	129-00-0
		Benzyl butyl phthalate	85-68-7
		Bis(2-ethylhexyl) phthalate	117-81-7
		Di-n-butyl phthalate	84-74-2
		4-Bromophenyl phenyl ether	101-55-3
		4-Chlorophenyl phenyl ether	7005-72-3
		Bis(2-chloroisopropyl)ether	108-60-1
		Bis(2-chloroethyl)ether	111-44-4
		Diphenyl ether (NOTE F)	101-84-8
		2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Bis(2-chloroethoxy)methane	111-91-1
		Diphenylamine	122-39-4
		N-Nitrosodiphenylamine	86-30-6
		N-Nitrosodi-n-propylamine	621-64-7

SCHEDULE AA - MONITORING PARAMETERS - ELECTRIC POWER GENERATION SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol	4901-51-3
		2,3,4,6-Tetrachlorophenol	58-90-2
		2,3,5,6-Tetrachlorophenol	935-95-5
		2,3,4-Trichlorophenol	15950-66-0
		2,3,5-Trichlorophenol	933-78-8
		2,4,5-Trichlorophenol	95-95-4
		2,4,6-Trichlorophenol	88-06-2
		2,4-Dimethyl phenol	105-67-9
		2,4-Dinitrophenol	51-28-5
		2,4-Dichlorophenol	120-83-2
		2,6-Dichlorophenol	87-65-0
		4,6-Dinitro-o-cresol	534-52-1
		2-Chlorophenol	95-57-8
		4-Chloro-3-methylphenol	59-50-7
		4-Nitrophenol	100-02-7
		m-Cresol	108-39-4
		o-Cresol	95-48-7
		p-Cresol	106-44-5
		Pentachlorophenol	87-86-5
		Phenol	108-95-2

SCHEDULE AA - MONITORING PARAMETERS - ELECTRIC POWER GENERATION SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene	634-66-2
		1,2,3,5-Tetrachlorobenzene	634-90-2
		1,2,4,5-Tetrachlorobenzene	95-94-3
		1,2,3-Trichlorobenzene	87-61-6
		1,2,4-Trichlorobenzene	120-82-1
		2,4,5-Trichlorotoluene	6639-30-1
		Hexachlorobenzene	118-74-1
		Hexachlorobutadiene	87-68-3
		Hexachlorocyclopentadiene	77-47-4
		Hexachloroethane	67-72-1
		Octachlorostyrene	29082-74-4
		Pentachlorobenzene	608-93-5
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
		Octachlorodibenzo-p-dioxin	326-88-7
		Octachlorodibenzofuran	Unavailable
		Total heptachlorinated dibenzo-p-dioxins	Unavailable
		Total heptachlorinated dibenzofurans	Unavailable
		Total hexachlorinated dibenzo-p-dioxins	34465-46-8
		Total hexachlorinated dibenzofurans	Unavailable
		Total pentachlorinated dibenzo-p-dioxins	Unavailable
		Total pentachlorinated dibenzofurans	Unavailable
		Total tetrachlorinated dibenzo-p-dioxins	Unavailable
		Total tetrachlorinated dibenzofurans	Unavailable
25	Solvent Extractables	Oil and grease	
27	PCBs (Total)	PCBs (Total)	Unavailable
E1	Metals	Iron	7439-89-6
E2	Total residual oxidants (TRO)	Total residual oxidants	

SCHEDULE AA - MONITORING PARAMETERS - ELECTRIC POWER GENERATION SECTOR

	COLUMN 1	COLUMN 2	COLUMN 3
ANALYTICAL TEST GROUP #	NAME	PARAMETERS	CAS #s †
E3	Diethanolamine	Diethanolamine	

† CAS #s = Chemical Abstract Service Registry Numbers

* 4AAP = 4-amino antipyrine method

NOTE 1: Total organic carbon is to be analyzed for only if the total suspended solids concentration is greater than 15 mg/L.

NOTE 2: Chromium (Hexavalent) is to be analyzed for only if the total chromium concentration is greater than 1.0 mg/L.

NOTE A: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 9 in Schedule 2 and in Part A of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.05 mg/L.

NOTE B: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 9 in Schedule 2 and in Part A of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.05 mg/L.

NOTE C: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 9 in Schedule 2 and in Part A of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.02 mg/L.

NOTE D: Follow the Sampling & Analytical Principles outlined for Analytical Test Group 16 in Schedule 2 and in Part B of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.8 µg/L.

NOTE E: Follow the Sampling & Analytical Principles outlined for acenaphthene in Analytical Test Group 19 in Schedule 2 and in Part B of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.6 µg/L.

NOTE F: Follow the Sampling & Analytical Principles outlined for benzyl butyl phthalate in Analytical Test Group 19 in Schedule 2 and in Part B of Schedule 3 to the General Effluent Monitoring Regulation with an Analytical Method Detection Limit of 0.4 µg/L.

Column 1	Column 2	Column 3	Column 4	Col. 5	Column 6	Column 7
ANALYTICAL TEST GROUP	LABORATORY SAMPLE CONTAINER	LABORATORY CONTAINER PRE-TREATMENT	TEST SPECIFIC SAMPLING PRECAUTIONS	MIN SAM. VOL.	PRESERVATION METHOD	MAX. STORAGE TIME
Metals						
E1	Sample containers and caps/ liners must be composed only of one or more of the following materials: fluorocarbon resin, polyethylene terephthalate, glass, polystyrene, polypropylene, high or low density polyethylene. Metallic foil should not be used.	If pre-treatment necessary, soak overnight in a 5% solution of nitric acid (HNO3), followed by several rinses in distilled water.	If sample is high (>5%) in hydrocarbons or organic solvents, use glass or fluorocarbon resin sample container only.	100mL	Add nitric acid (HNO3) (containing <1 mg/L of all analytes) to lower pH to <2	30 days
Total residual oxidants (TRO)						
E2	Glass/ground glass stopper	N/A	Fill container completely. Mount stopper to eliminate headspace.	N/A	Protect from light.	< 1 hr.
Diethanolamine						
E3	Amber glass bottle	None	None	100mL	None	30 days

SCHEDULE CC - ANALYTICAL PRINCIPLES & ANALYTICAL METHOD DETECTION LIMITS

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
ANALYTICAL TEST GROUP #	PARAMETERS CONVENTIONAL AND METAL PARAMETERS	SAMPLE PREPARATION METHOD PRINCIPLES	INSTRUMENTAL MEASUREMENT METHOD PRINCIPLES	ALTERNATE INSTRUMENTAL MEASUREMENT METHOD PRINCIPLES	ANALYTICAL METHOD DETECTION LIMITS
E1	Iron	Nitric evaporation or aqua regia digestion	Atomic absorption spectrometry and/or Emission Spectrometry - Inductively Coupled Plasma (ICP) or Direct Current Argon Plasma Spectrometry (DCP)	Polarography via the method of standard addition in the presence of suitable electrolyte	0.02 mg/L
E2	Total residual oxidants (TRO)	N/A	Amperometry or potentiometry	N/A	0.1 mg/L
E3	Diethanolamine	None	Ion Chromatography	N/A	0.1 mg/L

SCHEDULE DD - HYDRAULIC GENERATING PLANTS

ITEM	PLANT	LOCATION (River)	OWNER AS OF AUGUST 1, 1989
1	Abitibi Canyon GS	Abitibi	Ontario Hydro
2	Aguasabon GS	Aguasabon	Ontario Hydro
3	Alexander GS	Nipigon	Ontario Hydro
4	Arnprior GS	Madawaska	Ontario Hydro
5	Aubrey Falls GS	Mississagi	Ontario Hydro
6	Auburn GS	Otonabee	Ontario Hydro
7	Barrett Chute GS	Madawaska	Ontario Hydro
8	Big Chute GS	Severn	Ontario Hydro
9	Big Eddy GS	Muskoka	Ontario Hydro
10	Bingham Chute GS	South	Ontario Hydro
11	Calabogie GS	Madawaska	Ontario Hydro
12	Cameron Falls GS	Nipigon	Ontario Hydro
13	Caribou Falls GS	English	Ontario Hydro
14	Chats Falls GS	Ottawa	Ontario Hydro/ Hydro Quebec
15	Chenaux GS	Ottawa	Ontario Hydro
16	Coniston GS	Wanapitei	Ontario Hydro
17	Crystal Falls GS	Sturgeon	Ontario Hydro
18	Decew Falls ND 1 GS	Welland Ship Canal	Ontario Hydro
19	Decew Falls NF 23 GS	Welland Ship Canal	Ontario Hydro
20	Des Joachims GS	Ottawa	Ontario Hydro
21	Ear Falls GS	English	Ontario Hydro
22	Elliott Chute GS	South	Ontario Hydro

SCHEDULE DD - HYDRAULIC GENERATING PLANTS

ITEM	PLANT	LOCATION (River)	OWNER AS OF AUGUST 1, 1989
23	Eugenia GS	Beaver	Ontario Hydro
24	Frankford GS	Trent	Ontario Hydro
25	Hagues Reach GS	Trent	Ontario Hydro
26	Hanna Chute GS	Muskoka	Ontario Hydro
27	Harmon GS	Mattagami	Ontario Hydro
28	Healey Falls GS	Trent	Ontario Hydro
29	High Falls GS	Mississippi	Ontario Hydro
30	Holden GS	Ottawa	Ontario Hydro
31	Hound Chute GS	Montreal	Ontario Hydro
32	Indian Chute GS	Montreal	Ontario Hydro
33	Kakabeka Falls GS	Kaministikwia	Ontario Hydro
34	Kipling GS	Mattagami	Ontario Hydro
35	Lakefield GS	Otonabee	Ontario Hydro
36	Little Long GS	Mattagami	Ontario Hydro
37	Lower Notch GS	Montreal	Ontario Hydro
38	Lower Sturgeon GS	Mattagami	Ontario Hydro
39	Manitou Falls GS	English	Ontario Hydro
40	Matabitchuan GS •	Matabitchuan	Ontario Hydro
41	McVittie GS	Wanapitei	Ontario Hydro
42	Merrickville GS	Rideau	Ontario Hydro
43	Meyersburg GS	Trent	Ontario Hydro
44	Mountain Chute GS	Madawaska	Ontario Hydro

SCHEDULE DD - HYDRAULIC GENERATING PLANTS

ITEM	PLANT	LOCATION (River)	OWNER AS OF AUGUST 1, 1989
45	Nipissing GS	South	Ontario Hydro
46	Ontario Power GS	Niagara	Ontario Hydro
47	Otter Rapids GS	Abitibi	Ontario Hydro
48	Pine Portage GS	Nipigon	Ontario Hydro
49	Ragged Rapids GS	Muskoka	Ontario Hydro
50	Ranney Falls GS	Trent	Ontario Hydro
51	Rayner GS	Mississagi	Ontario Hydro
52	Red Rock Falls GS	Mississagi	Ontario Hydro
53	Sandy Falls GS	Mattagami	Ontario Hydro
54	Saunders GS	St. Lawrence	Ontario Hydro
55	Seymour GS	Trent	Ontario Hydro
56	Sidney GS	Trent	Ontario Hydro
57	Sills Island GS	Trent	Ontario Hydro
58	Silver Falls GS	Kaministikwia	Ontario Hydro
59	Sir Adam Beck No. 1 GS	Niagara	Ontario Hydro
60	Sir Adam Beck No. 2 GS	Niagara	Ontario Hydro
61	Sir Adam Beck PGS	Niagara	Ontario Hydro
62	South Falls GS	Muskoka	Ontario Hydro
63	Stewartville GS	Madawaska	Ontario Hydro
64	Stinson GS	Wanapitei	Ontario Hydro
65	Trethewey Falls GS	Muskoka	Ontario Hydro
66	Wawaitin GS	Mattagami	Ontario Hydro

SCHEDULE DD - HYDRAULIC GENERATING PLANTS

ITEM	PLANT	LOCATION (River)	OWNER AS OF AUGUST 1, 1989
67	Wells GS	Mississagi	Ontario Hydro
68	Whitedog GS	Winnipeg	Ontario Hydro

LEGEND FOR SCHEDULES A TO I

NOTE 1: Total organic carbon is to be analyzed only if the total suspended solids concentration is greater than 15 milligrams/litre.

NOTE 2: Chromium (Hexavalent) is to be analyzed only if the total chromium concentration is greater than 1.0 milligram/litre.

ATG - Analytical Test Group

D - Daily

TW - Thrice weekly

W - Weekly

M - Monthly

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium		XXX						XXX		XXX		
		Total Kjeldahl nitrogen			XXX				XXX				XXX	
4b		Nitrate + Nitrite			XXX				XXX					XXX
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX				XXX						XXX
5b		Total organic carbon (TOC) (NOTE 1)		XXX				XXX						XXX
6	Total phosphorus	Total phosphorus			XXX				XXX			XXX		
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)		XXX			XXX					XXX		
		Volatile suspended solids (VSS)												
9	Total metals	Aluminum			XXX				XXX				XXX	
		Beryllium			XXX				XXX				XXX	
		Boron			XXX				XXX				XXX	
		Cadmium			XXX				XXX				XXX	
		Chromium			XXX				XXX				XXX	
		Cobalt			XXX				XXX				XXX	
		Copper		XXX				XXX				XXX		
		Lead			XXX				XXX				XXX	
		Lithium			XXX				XXX				XXX	
		Molybdenum			XXX				XXX				XXX	
		Nickel			XXX				XXX				XXX	

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Silver			XXX				XXX				XXX	
		Strontium			XXX				XXX				XXX	
		Thallium			XXX				XXX				XXX	
		Vanadium			XXX				XXX				XXX	
		Zinc		XXX				XXX				XXX		
10	Hydrides (but see subsection 8(3))	Antimony				XXX			XXX					
		Arsenic			XXX				XXX					
		Selenium				XXX			XXX					
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)			XXX				XXX				XXX	
12	Mercury	Mercury			XXX				XXX					
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX				XXX			XXX	
15	Sulphide	Sulphide												
16	Volatiles, Halogenated (but see subsection 9(3))	1,1,2,2-Tetrachloroethane				XXX				XXX				
		1,1,2-Trichloroethane				XXX				XXX				
		1,1-Dichloroethane				XXX				XXX				
		1,1-Dichloroethylene				XXX				XXX				
		1,2-Dichlorobenzene				XXX				XXX				
		1,2-Dichloroethane (Ethylene dichloride)				XXX				XXX				
		1,2-Dichloropropane				XXX				XXX				
		1,3-Dichlorobenzene				XXX				XXX				
		1,4-Dichlorobenzene				XXX				XXX				
		Bromodichloromethane				XXX				XXX				
		Bromoform				XXX				XXX				

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
16	Volatiles, Halogenated (but see subsection 9(3)) (continued)	Bromomethane				XXX				XXX				
		Carbon tetrachloride				XXX				XXX				
		Chlorobenzene				XXX				XXX				
		Chloroform				XXX				XXX				
		Chloromethane				XXX				XXX				
		Cis-1,3-Dichloropropylene				XXX				XXX				
		Dibromochloromethane				XXX				XXX				
		Ethylene dibromide				XXX				XXX				
		Methylene chloride				XXX				XXX				
		Tetrachloroethylene (Perchloroethylene)				XXX				XXX				
		Trans-1,2-Dichloroethylene				XXX				XXX				
		Trans-1,3-Dichloropropylene				XXX				XXX				
		Trichloroethylene				XXX				XXX				
		Trichlorofluoromethane				XXX				XXX				
		Vinyl chloride (Chloroethylene)				XXX				XXX				
19	Extractables, Base Neutral	Acenaphthene												
		5-nitro Acenaphthene												
		Acenaphthylene												
		Anthracene												
		Benz(a)anthracene												
		Benzo(a)pyrene												
		Benzo(b)fluoranthene												
		Benzo(g,h,i)perylene												
		Benzo(k)fluoranthene												
		Biphenyl												
		Camphene												
		1-Chloronaphthalene												
		2-Chloronaphthalene												

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
19	Extractables, Base Neutral (continued)	Chrysene												
		Dibenz(a,h)anthracene												
		Fluoranthene												
		Fluorene												
		Indeno(1,2,3-cd)pyrene												
		Indole												
		1-Methylnaphthalene												
		2-Methylnaphthalene												
		Naphthalene												
		Perylene												
		Phenanthrene												
		Pyrene												
		Benzyl butyl phthalate												
		Bis(2-ethylhexyl) phthalate												
		Di-n-butyl phthalate												
		4-Bromophenyl phenyl ether												
		4-Chlorophenyl phenyl ether												
		Bis(2-chloroisopropyl)ether												
		Bis(2-chloroethyl)ether												
		Diphenyl ether												
		2,4-Dinitrotoluene												
		2,6-Dinitrotoluene												
		Bis(2-chloroethoxy)methane												
		Diphenylamine												
		N-Nitrosodiphenylamine												
		N-Nitrosodi-n-propylamine												

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene												
		1,2,3,5-Tetrachlorobenzene												
		1,2,4,5-Tetrachlorobenzene												
		1,2,3-Trichlorobenzene												
		1,2,4-Trichlorobenzene												
		2,4,5-Trichlorotoluene												
		Hexachlorobenzene												
		Hexachlorobutadiene												
		Hexachlorocyclopentadiene												
		Hexachloroethane												
		Octachlorostyrene												
		Pentachlorobenzene												
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin												
		Octachlorodibenzo-p-dioxin												
		Octachlorodibenzofuran												
		Total heptachlorinated dibenzo-p-dioxins												
		Total heptachlorinated dibenzofurans												
		Total hexachlorinated dibenzo-p-dioxins												
		Total hexachlorinated dibenzofurans												
		Total pentachlorinated dibenzo-p-dioxins												
		Total pentachlorinated dibenzofurans												
		Total tetrachlorinated dibenzo-p-dioxins												
		Total tetrachlorinated dibenzofurans												
25	Solvent Extractables	Oil and grease			XXX				XXX					XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)												

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Ash Transport Water System				Unnamed			
		STREAM TYPE:	Process Effluent				Process Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
E1	Metals	Iron		XXX				XXX				XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
3	Hydrogen ion (pH)	Hydrogen ion (pH)		XXX			XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium				XXX	XXX	XXX	
		Total Kjeldahl nitrogen				XXX	XXX	XXX	
4b		Nitrate + Nitrite				XXX	XXX	XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX			XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)		XXX			XXX	XXX	XXX
6	Total phosphorus	Total phosphorus				XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance		XXX			XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)		XXX			XXX	XXX	XXX
		Volatile suspended solids (VSS)		XXX					
9	Total metals	Aluminum				XXX	XXX	XXX	XXX
		Beryllium				XXX	XXX	XXX	XXX
		Boron				XXX	XXX	XXX	XXX
		Cadmium				XXX	XXX	XXX	XXX
		Chromium				XXX	XXX	XXX	XXX
		Cobalt				XXX	XXX	XXX	XXX
		Copper				XXX	XXX	XXX	XXX
		Lead				XXX	XXX	XXX	XXX
		Lithium				XXX	XXX	XXX	XXX
		Molybdenum				XXX	XXX	XXX	XXX
		Nickel				XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
9	Total metals (continued)	Silver				XXX	XXX	XXX	XXX
		Strontium				XXX	XXX	XXX	XXX
		Thallium				XXX	XXX	XXX	XXX
		Vanadium				XXX	XXX	XXX	XXX
		Zinc				XXX	XXX	XXX	XXX
10	Hydrides	Antimony					XXX	XXX	
		Arsenic					XXX	XXX	
		Selenium					XXX	XXX	
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)				XXX	XXX	XXX	XXX
12	Mercury	Mercury					XXX	XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX			XXX	XXX	XXX
15	Sulphide	Sulphide							
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX			
		1,1,2-Trichloroethane				XXX			
		1,1-Dichloroethane				XXX			
		1,1-Dichloroethylene				XXX			
		1,2-Dichlorobenzene				XXX			
		1,2-Dichloroethane (Ethylene dichloride)				XXX			
		1,2-Dichloropropane				XXX			
		1,3-Dichlorobenzene				XXX			
		1,4-Dichlorobenzene				XXX			
		Bromodichloromethane				XXX			
		Bromoform				XXX			

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
16	Volatiles, Halogenated (continued)	Bromomethane				XXX			
		Carbon tetrachloride				XXX			
		Chlorobenzene				XXX			
		Chloroform				XXX			XXX
		Chloromethane				XXX			
		Cis-1,3-Dichloropropylene				XXX			
		Dibromochloromethane				XXX			
		Ethylene dibromide				XXX			
		Methylene chloride				XXX			
		Tetrachloroethylene (Perchloroethylene)				XXX			
		Trans-1,2-Dichloroethylene				XXX			
		Trans-1,3-Dichloropropylene				XXX			
		Trichloroethylene				XXX			
		Trichlorofluoromethane				XXX			
		Vinyl chloride (Chloroethylene)				XXX			
19	Extractables, Base Neutral	Acenaphthene							
		5-nitro Acenaphthene							
		Acenaphthylene							
		Anthracene							
		Benz(a)anthracene							
		Benzo(a)pyrene							
		Benzo(b)fluoranthene							
		Benzo(g,h,i)perylene							
		Benzo(k)fluoranthene							
		Biphenyl							
		Camphene							
		1-Chloronaphthalene							
		2-Chloronaphthalene							

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
19	Extractables, Base Neutral (continued)	Chrysene							
		Dibenz(a,h)anthracene							
		Fluoranthene							
		Fluorene							
		Indeno(1,2,3-cd)pyrene							
		Indole							
		1-Methylnaphthalene							
		2-Methylnaphthalene							
		Naphthalene							
		Perylene							
		Phenanthrene							
		Pyrene							
		Benzyl butyl phthalate							
		Bis(2-ethylhexyl) phthalate							
		Di-n-butyl phthalate							
		4-Bromophenyl phenyl ether							
		4-Chlorophenyl phenyl ether							
		Bis(2-chloroisopropyl)ether							
		Bis(2-chloroethyl)ether							
		Diphenyl ether							
		2,4-Dinitrotoluene							
		2,6-Dinitrotoluene							
		Bis(2-chloroethoxy)methane							
		Diphenylamine							
		N-Nitrosodiphenylamine							
		N-Nitrosodi-n-propylamine							

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene					XXX	XXX	
		1,2,3,5-Tetrachlorobenzene					XXX	XXX	
		1,2,4,5-Tetrachlorobenzene					XXX	XXX	
		1,2,3-Trichlorobenzene					XXX	XXX	
		1,2,4-Trichlorobenzene					XXX	XXX	
		2,4,5-Trichlorotoluene					XXX	XXX	
		Hexachlorobenzene					XXX	XXX	
		Hexachlorobutadiene					XXX	XXX	
		Hexachlorocyclopentadiene					XXX	XXX	
		Hexachloroethane					XXX	XXX	
		Octachlorostyrene					XXX	XXX	
		Pentachlorobenzene					XXX	XXX	
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin							
		Octachlorodibenzo-p-dioxin							
		Octachlorodibenzofuran							
		Total heptachlorinated dibenzo-p-dioxins							
		Total heptachlorinated dibenzofurans							
		Total hexachlorinated dibenzo-p-dioxins							
		Total hexachlorinated dibenzofurans							
		Total pentachlorinated dibenzo-p-dioxins							
		Total pentachlorinated dibenzofurans							
		Total tetrachlorinated dibenzo-p-dioxins							
		Total tetrachlorinated dibenzofurans							
25	Solvent Extractables	Oil and grease		XXX			XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)							

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator				Coal Pile Treatment System	Unnamed	Unnamed
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Coal Pile Effluent	Once Through Cooling Water
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
E1	Metals	Iron				XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum	XXX	XXX	XXX	
		Beryllium	XXX	XXX		
		Boron	XXX			
		Cadmium	XXX			
		Chromium	XXX	XXX	XXX	
		Cobalt	XXX	XXX	XXX	
		Copper	XXX	XXX	XXX	XXX
		Lead	XXX	XXX		
		Lithium	XXX			
		Molybdenum	XXX	XXX	XXX	
		Nickel	XXX			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Silver	XXX			
		Strontium	XXX			
		Thallium	XXX			
		Vanadium	XXX			
		Zinc	XXX	XXX	XXX	XXX
10	Hydrides	Antimony		XXX		
		Arsenic		XXX		
		Selenium				
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)				
12	Mercury	Mercury		XXX		
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX		
15	Sulphide	Sulphide				
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				
		1,1,2-Trichloroethane				
		1,1-Dichloroethane				
		1,1-Dichloroethylene				
		1,2-Dichlorobenzene				
		1,2-Dichloroethane (Ethylene dichloride)				
		1,2-Dichloropropane				
		1,3-Dichlorobenzene				
		1,4-Dichlorobenzene				
		Bromodichloromethane				
		Bromoform				

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	Bromomethane				
		Carbon tetrachloride				
		Chlorobenzene				
		Chloroform				
		Chloromethane				
		Cis-1,3-Dichloropropylene				
		Dibromochloromethane				
		Ethylene dibromide				
		Methylene chloride				
		Tetrachloroethylene (Perchloroethylene)				
		Trans-1,2-Dichloroethylene				
		Trans-1,3-Dichloropropylene				
		Trichloroethylene				
		Trichlorofluoromethane	XXX	XXX		
		Vinyl chloride (Chloroethylene)				
19	Extractables, Base Neutral (but see subsection 15(4))	Acenaphthene				
		5-nitro Acenaphthene				
		Acenaphthylene				
		Anthracene				
		Benz(a)anthracene				
		Benzo(a)pyrene				
		Benzo(b)fluoranthene				
		Benzo(g,h,i)perylene				
		Benzo(k)fluoranthene				
		Biphenyl				
		Camphene				
		1-Chloronaphthalene				
		2-Chloronaphthalene				

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral (but see subsection 15(4)) (continued)	Chrysene				
		Dibenz(a,h)anthracene				
		Fluoranthene				
		Fluorene				
		Indeno(1,2,3-cd)pyrene				
		Indole				
		1-Methylnaphthalene				
		2-Methylnaphthalene				
		Naphthalene				
		Perylene				
		Phenanthrene				
		Pyrene				
		Benzyl butyl phthalate				
		Bis(2-ethylhexyl) phthalate				
		Di-n-butyl phthalate				
		4-Bromophenyl phenyl ether				
		4-Chlorophenyl phenyl ether				
		Bis(2-chloroisopropyl)ether				
		Bis(2-chloroethyl)ether				
		Diphenyl ether				
		2,4-Dinitrotoluene				
		2,6-Dinitrotoluene				
		Bis(2-chloroethoxy)methane				
		Diphenylamine				
		N-Nitrosodiphenylamine				
		N-Nitrosodi-n-propylamine				

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				
		1,2,3,5-Tetrachlorobenzene				
		1,2,4,5-Tetrachlorobenzene				
		1,2,3-Trichlorobenzene				
		1,2,4-Trichlorobenzene		XXX	XXX	
		2,4,5-Trichlorotoluene				
		Hexachlorobenzene				
		Hexachlorobutadiene		XXX		
		Hexachlorocyclopentadiene				
		Hexachloroethane				
		Octachlorostyrene				
		Pentachlorobenzene				
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans (but see subsection 15(4))	2,3,7,8-Tetrachlorodibenzo-p-dioxin				
		Octachlorodibenzo-p-dioxin				
		Octachlorodibenzofuran				
		Total heptachlorinated dibenzo-p-dioxins				
		Total heptachlorinated dibenzofurans				
		Total hexachlorinated dibenzo-p-dioxins				
		Total hexachlorinated dibenzofurans				
		Total pentachlorinated dibenzo-p-dioxins				
		Total pentachlorinated dibenzofurans				
		Total tetrachlorinated dibenzo-p-dioxins				
		Total tetrachlorinated dibenzofurans				
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)		XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE A - FOSSIL FUELLED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Equipment Cleaning Effluent	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
E1	Metals	Iron	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE B - HYDRAULIC POWERED GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Transformer Yard Drain	Unnamed
		STREAM TYPE:	Once Through Cooling Water	Storm Water	Potentially Contaminated Building Effluent
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium		XXX	
		Total Kjeldahl nitrogen		XXX	
4b		Nitrate + Nitrite		XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum		XXX	XXX
		Beryllium			XXX
		Boron			
		Cadmium		XXX	
		Chromium			XXX
		Cobalt			XXX
		Copper		XXX	XXX
		Lithium			
		Lead			XXX
		Molybdenum		XXX	

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE B - HYDRAULIC POWERED GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Transformer Yard Drain	Unnamed
		STREAM TYPE:	Once Through Cooling Water	Storm Water	Potentially Contaminated Building Effluent
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Nickel			XXX
		Silver			
		Strontium			
		Thallium			
		Vanadium			XXX
		Zinc		XXX	XXX
10	Hydrides	Antimony			
		Arsenic		XXX	
		Selenium			
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX	XXX
17	Volatiles, Non-Halogenated (but see subsection 15(5))	Benzene			
		Styrene			
		Toluene			
		o-Xylene			
		m-Xylene and p-Xylene			
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol			
		2,3,4,6-Tetrachlorophenol			
		2,3,5,6-Tetrachlorophenol			
		2,3,4-Trichlorophenol			
		2,3,5-Trichlorophenol			
		2,4,5-Trichlorophenol			
		2,4,6-Trichlorophenol			
		2,4-Dimethylphenol			
		2,4-Dinitrophenol			

MONITORING SCHEDULE B - HYDRAULIC POWERED GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Transformer Yard Drain	Unnamed
		STREAM TYPE:	Once Through Cooling Water	Storm Water	Potentially Contaminated Building Effluent
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
20	Extractables, Acid (Phenolics) (continued)	2,4-Dichlorophenol			
		2,6-Dichlorophenol			
		4,6-Dinitro-o-cresol			
		2-Chlorophenol			
		4-Chloro-3-methylphenol			
		4-Nitrophenol			
		m-Cresol			
		o-Cresol			
		p-Cresol			
		Pentachlorophenol			
		Phenol		XXX	
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX
27	Polychlorinated Biphenyls	(PCBs) (Total)	XXX	XXX	
E1	Metals	Iron			XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Radioactive Liquid Waste Management Tanks				Unnamed			
		STREAM TYPE:	Process Effluent				Batch Discharge Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen (but see subsections 8(4) and 9(4))	Ammonia plus Ammonium			XXX				XXX			XXX		
		Total Kjeldahl nitrogen			XXX				XXX				XXX	
4b		Nitrate + Nitrite		XXX						XXX				XXX
5a	Organic carbon (but see subsections 8(5) and 9(5))	Dissolved organic carbon (DOC)		XXX				XXX				XXX		
5b		Total organic carbon (TOC) (NOTE 1)		XXX				XXX				XXX		
6	Total phosphorus	Total phosphorus			XXX			XXX						
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)		XXX				XXX				XXX		
		Volatile suspended solids (VSS)												
9	Total metals (but see subsection 9(6))	Aluminum			XXX				XXX				XXX	
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium			XXX					XXX			XXX	
		Cobalt				XXX				XXX			XXX	
		Copper		XXX				XXX				XXX		
		Lead			XXX					XXX				XXX
		Lithium				XXX				XXX				XXX
		Molybdenum			XXX					XXX			XXX	
		Nickel			XXX					XXX			XXX	

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Radioactive Liquid Waste Management Tanks				Unnamed			
		STREAM TYPE:	Process Effluent				Batch Discharge Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (but see subsection 9(6)) (continued)	Silver				XXX				XXX				XXX
		Strontium			XXX					XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium				XXX				XXX				XXX
		Zinc		XXX				XXX				XXX		
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)			XXX					XXX			XXX	
12	Mercury	Mercury												
14	Phenolics (4AAP)	Phenolics (4AAP)											XXX	
15	Sulphide	Sulphide							XXX					
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX				XXX				
		1,1,2-Trichloroethane				XXX				XXX				
		1,1-Dichloroethane				XXX				XXX				
		1,1-Dichloroethylene				XXX				XXX				
		1,2-Dichlorobenzene				XXX				XXX				
		1,2-Dichloroethane (Ethylene dichloride)				XXX				XXX				
		1,2-Dichloropropane				XXX				XXX				
		1,3-Dichlorobenzene				XXX				XXX				
		1,4-Dichlorobenzene				XXX				XXX				
		Bromodichloromethane				XXX				XXX				
		Bromoform				XXX				XXX				
		Bromomethane				XXX				XXX				
		Carbon tetrachloride				XXX				XXX				
		Chlorobenzene				XXX				XXX				
		Chloroform			XXX				XXX					

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Radioactive Liquid Waste Management Tanks				Unnamed			
		STREAM TYPE:	Process Effluent				Batch Discharge Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
16	Volatiles, Halogenated (continued)	Chloromethane				XXX				XXX				
		Cis-1,3-Dichloropropylene				XXX				XXX				
		Dibromochloromethane			XXX					XXX				
		Ethylene dibromide				XXX				XXX				
		Methylene chloride				XXX				XXX				
		Tetrachloroethylene (Perchloroethylene)				XXX				XXX				
		Trans-1,2-Dichloroethylene				XXX				XXX				
		Trans-1,3-Dichloropropylene				XXX				XXX				
		Trichloroethylene				XXX				XXX				
		Trichlorofluoromethane				XXX				XXX				
		Vinyl chloride (Chloroethylene)				XXX				XXX				
19	Extractables, Base Neutral	Acenaphthene												
		5-nitro Acenaphthene												
		Acenaphthylene												
		Anthracene												
		Benz(a)anthracene												
		Benzo(a)pyrene												
		Benzo(b)fluoranthene												
		Benzo(g,h,i)perylene												
		Benzo(k)fluoranthene												
		Biphenyl												
		Camphene												
		1-Chloronaphthalene												
		2-Chloronaphthalene												
		Chrysene												
		Dibenz(a,h)anthracene												
		Fluoranthene												
		Fluorene												

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Radioactive Liquid Waste Management Tanks				Unnamed			
		STREAM TYPE:	Process Effluent				Batch Discharge Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
19	Extractables, Base Neutral (continued)	Indeno(1,2,3-cd)pyrene												
		Indole												
		1-Methylnaphthalene												
		2-Methylnaphthalene												
		Naphthalene												
		Perylene												
		Phenanthrene												
		Pyrene												
		Benzyl butyl phthalate												
		Bis(2-ethylhexyl) phthalate												
		Di-n-butyl phthalate												
		4-Bromophenyl phenyl ether												
		4-Chlorophenyl phenyl ether												
		Bis(2-chloroisopropyl)ether												
		Bis(2-chloroethyl)ether												
		Diphenyl Ether												
		2,4-Dinitrotoluene												
		2,6-Dinitrotoluene												
		Bis(2-chloroethoxy)methane												
		Diphenylamine												
		N-Nitrosodiphenylamine												
		N-Nitrosodi-n-propylamine												
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene								XXX				
		1,2,3,5-Tetrachlorobenzene								XXX				
		1,2,4,5-Tetrachlorobenzene							XXX					
		1,2,3-Trichlorobenzene								XXX				
		1,2,4-Trichlorobenzene								XXX				
		2,4,5-Trichlorotoluene								XXX				

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Water Treatment Plant Neutralization Sump				Radioactive Liquid Waste Management Tanks				Unnamed			
		STREAM TYPE:	Process Effluent				Batch Discharge Effluent				Boiler Blowdown Effluent			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
23	Extractables, Neutral -Chlorinated (continued)	Hexachlorobenzene								XXX				
		Hexachlorobutadiene								XXX				
		Hexachlorocyclopentadiene								XXX				
		Hexachloroethane								XXX				
		Octachlorostyrene								XXX				
		Pentachlorobenzene								XXX				
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans (but see subsection 10(3))	2,3,7,8-Tetrachlorodibenzo-p-dioxin												
		Octachlorodibenzo-p-dioxin												
		Octachlorodibenzofuran												
		Total heptachlorinated dibenzo-p-dioxins												
		Total heptachlorinated dibenzofurans												
		Total hexachlorinated dibenzo-p-dioxins												
		Total hexachlorinated dibenzofurans												
		Total pentachlorinated dibenzo-p-dioxins												
		Total pentachlorinated dibenzofurans												
		Total tetrachlorinated dibenzo-p-dioxins												
		Total tetrachlorinated dibenzofurans												
25	Solvent Extractables	Oil and grease			XXX			XXX						XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)							XXX					
E1	Metals	Iron		XXX				XXX				XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Event Discharge Effluent	Once Through Cooling Water	Equipment Cleaning Effluent	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium			XXX	
		Total Kjeldahl nitrogen		XXX	XXX	
4b		Nitrate + Nitrite		XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus		XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)	XXX			
9	Total metals	Aluminum		XXX	XXX	XXX
		Beryllium				
		Boron				
		Cadmium				
		Chromium		XXX	XXX	
		Cobalt				XXX
		Copper	XXX	XXX	XXX	XXX
		Lead		XXX		
		Lithium				
		Molybdenum		XXX	XXX	XXX
		Nickel		XXX	XXX	

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Event Discharge Effluent	Once Through Cooling Water	Equipment Cleaning Effluent	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Silver				
		Strontium				
		Thallium				
		Vanadium		XXX	XXX	
		Zinc	XXX	XXX	XXX	XXX
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)		XXX	XXX	
12	Mercury	Mercury				
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX		XXX	XXX
15	Sulphide	Sulphide				
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				
		1,1,2-Trichloroethane				
		1,1-Dichloroethane				
		1,1-Dichloroethylene				
		1,2-Dichlorobenzene				
		1,2-Dichloroethane (Ethylene dichloride)				
		1,2-Dichloropropane				
		1,3-Dichlorobenzene				
		1,4-Dichlorobenzene				
		Bromodichloromethane				
		Bromoform				
		Bromomethane				
		Carbon tetrachloride				
		Chlorobenzene				
		Chloroform				

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Event Discharge Effluent	Once Through Cooling Water	Equipment Cleaning Effluent	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	Chloromethane				
		Cis-1,3-Dichloropropylene				
		Dibromochloromethane				
		Ethylene dibromide				
		Methylene chloride				
		Tetrachloroethylene (Perchloroethylene)				
		Trans-1,2-Dichloroethylene				
		Trans-1,3-Dichloropropylene				
		Trichloroethylene				
		Trichlorofluoromethane				
		Vinyl chloride (Chloroethylene)				
19	Extractables, Base Neutral	Acenaphthene				
		5-nitro Acenaphthene				
		Acenaphthylene				
		Anthracene				
		Benz(a)anthracene				
		Benzo(a)pyrene				
		Benzo(b)fluoranthene				
		Benzo(g,h,i)perylene				
		Benzo(k)fluoranthene				
		Biphenyl				
		Camphene				
		1-Chloronaphthalene				
		2-Chloronaphthalene				
		Chrysene				
		Dibenz(a,h)anthracene				
		Fluoranthene				
		Fluorene				

		NAME OF EFFLUENT STREAM:	Oily Water Separator	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Event Discharge Effluent	Once Through Cooling Water	Equipment Cleaning Effluent	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
19	Extractables, Base Neutral (continued)	Indeno(1,2,3-cd)pyrene				
		Indole				
		1-Methylnaphthalene				
		2-Methylnaphthalene				
		Naphthalene				
		Perylene				
		Phenanthrene				
		Pyrene				
		Benzyl butyl phthalate				
		Bis(2-ethylhexyl) phthalate				
		Di-n-butyl phthalate				
		4-Bromophenyl phenyl ether				
		4-Chlorophenyl phenyl ether				
		Bis(2-chloroisopropyl)ether				
		Bis(2-chloroethyl)ether				
		Diphenyl Ether				
		2,4-Dinitrotoluene				
		2,6-Dinitrotoluene				
		Bis(2-chloroethoxy)methane				
		Diphenylamine				
		N-Nitrosodiphenylamine				
		N-Nitrosodi-n-propylamine				
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene				
		1,2,3,5-Tetrachlorobenzene				
		1,2,4,5-Tetrachlorobenzene				
		1,2,3-Trichlorobenzene			XXX	
		1,2,4-Trichlorobenzene				
		2,4,5-Trichlorotoluene				

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Oily Water Separator	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Event Discharge Effluent	Once Through Cooling Water	Equipment Cleaning Effluent	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
23	Extractables, Neutral -Chlorinated (continued)	Hexachlorobenzene				
		Hexachlorobutadiene				
		Hexachlorocyclopentadiene				
		Hexachloroethane				
		Octachlorostyrene				
		Pentachlorobenzene				
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin				
		Octachlorodibenzo-p-dioxin				
		Octachlorodibenzofuran				
		Total heptachlorinated dibenzo-p-dioxins				
		Total heptachlorinated dibenzofurans				
		Total hexachlorinated dibenzo-p-dioxins				
		Total hexachlorinated dibenzofurans				
		Total pentachlorinated dibenzo-p-dioxins				
		Total pentachlorinated dibenzofurans				
		Total tetrachlorinated dibenzo-p-dioxins				
		Total tetrachlorinated dibenzofurans				
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)				XXX
E1	Metals	Iron	XXX	XXX	XXX	XXX

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum	XXX	
		Beryllium		
		Boron		
		Cadmium	XXX	
		Chromium	XXX	
		Cobalt	XXX	
		Copper	XXX	XXX
		Lead		
		Lithium		
		Molybdenum	XXX	
		Nickel	XXX	

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Silver		
		Strontium		
		Thallium		
		Vanadium		
		Zinc	XXX	XXX
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)	XXX	
12	Mercury	Mercury	XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	
15	Sulphide	Sulphide		
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		
		1,1,2-Trichloroethane		
		1,1-Dichloroethane		
		1,1-Dichloroethylene		
		1,2-Dichlorobenzene		
		1,2-Dichloroethane (Ethylene dichloride)		
		1,2-Dichloropropane		
		1,3-Dichlorobenzene		
		1,4-Dichlorobenzene		
		Bromodichloromethane		
		Bromoform		
		Bromomethane		
		Carbon tetrachloride		
		Chlorobenzene		
		Chloroform		

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
16	Volatiles, Halogenated (continued)	Chloromethane		
		Cis-1,3-Dichloropropylene		
		Dibromochloromethane		
		Ethylene dibromide		
		Methylene chloride		
		Tetrachloroethylene (Perchloroethylene)		
		Trans-1,2-Dichloroethylene		
		Trans-1,3-Dichloropropylene		
		Trichloroethylene		
		Trichlorofluoromethane		
		Vinyl chloride (Chloroethylene)		
19	Extractables, Base Neutral	Acenaphthene		
		5-nitro Acenaphthene		
		Acenaphthylene		
		Anthracene		
		Benz(a)anthracene		
		Benzo(a)pyrene		
		Benzo(b)fluoranthene		
		Benzo(g,h,i)perylene		
		Benzo(k)fluoranthene		
		Biphenyl		
		Camphene		
		1-Chloronaphthalene		
		2-Chloronaphthalene		
		Chrysene		
		Dibenz(a,h)anthracene		
		Fluoranthene		
		Fluorene		

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
19	Extractables, Base Neutral (continued)	Indeno(1,2,3-cd)pyrene		
		Indole		
		1-Methylnaphthalene		
		2-Methylnaphthalene		
		Naphthalene		
		Perylene		
		Phenanthrene		
		Pyrene		
		Benzyl butyl phthalate		
		Bis(2-ethylhexyl) phthalate		
		Di-n-butyl phthalate		
		4-Bromophenyl phenyl ether		
		4-Chlorophenyl phenyl ether		
		Bis(2-chloroisopropyl)ether		
		Bis(2-chloroethyl)ether		
		Diphenyl Ether		
		2,4-Dinitrotoluene		
		2,6-Dinitrotoluene		
		Bis(2-chloroethoxy)methane		
		Diphenylamine		
		N-Nitrosodiphenylamine		
		N-Nitrosodi-n-propylamine		
23	Extractables, Neutral -Chlorinated	1,2,3,4-Tetrachlorobenzene		
		1,2,3,5-Tetrachlorobenzene		
		1,2,4,5-Tetrachlorobenzene		
		1,2,3-Trichlorobenzene		
		1,2,4-Trichlorobenzene		
		2,4,5-Trichlorotoluene		

MONITORING SCHEDULE C - NUCLEAR POWERED THERMAL GENERATING STATIONS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
23	Extractables, Neutral -Chlorinated (continued)	Hexachlorobenzene		
		Hexachlorobutadiene		
		Hexachlorocyclopentadiene		
		Hexachloroethane		
		Octachlorostyrene		
		Pentachlorobenzene		
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin		
		Octachlorodibenzo-p-dioxin		
		Octachlorodibenzofuran		
		Total heptachlorinated dibenzo-p-dioxins		
		Total heptachlorinated dibenzofurans		
		Total hexachlorinated dibenzo-p-dioxins		
		Total hexachlorinated dibenzofurans		
		Total pentachlorinated dibenzo-p-dioxins		
		Total pentachlorinated dibenzofurans		
		Total tetrachlorinated dibenzo-p-dioxins		
		Total tetrachlorinated dibenzofurans		
25	Solvent Extractables	Oil and grease	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)		
E1	Metals	Iron	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE D - BRUCE HEAVY WATER PLANTS

		NAME OF EFFLUENT STREAM:	Bruce Heavy Water Plant Effluent				Effluent Lagoon	Unnamed	Drain Lagoon	Carbonated Equipment Drain
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Once Through Cooling Water	Storm Water	Equipment Cleaning Effluent
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium				XXX			XXX	
		Total Kjeldahl nitrogen				XXX			XXX	
4b		Nitrate + Nitrite				XXX		XXX	XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX			XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)				XXX	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus						XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX				XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)				XXX	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)								
9	Total metals	Aluminum			XXX		XXX	XXX	XXX	
		Beryllium				XXX				
		Boron				XXX				
		Cadmium				XXX				
		Chromium				XXX				
		Cobalt				XXX	XXX	XXX		
		Copper				XXX		XXX	XXX	XXX
		Lead				XXX				
		Lithium				XXX				
		Molybdenum				XXX	XXX	XXX		
		Nickel				XXX				

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE D - BRUCE HEAVY WATER PLANTS

		NAME OF EFFLUENT STREAM:	Bruce Heavy Water Plant Effluent				Effluent Lagoon	Unnamed	Drain Lagoon	Carbonated Equipment Drain
		STREAM TYPE:	Process Effluent				Event Discharge Effluent	Once Through Cooling Water	Storm Water	Equipment Cleaning Effluent
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED								
9	Total metals (continued)	Silver				XXX				
		Strontium				XXX				
		Thallium				XXX				
		Vanadium				XXX		XXX		
		Zinc				XXX		XXX	XXX	XXX
12	Mercury	Mercury					XXX			
14	Phenolics (4AAP)	Phenolics (4AAP)				XXX		XXX		
15	Sulphide	Sulphide	XXX				XXX			XXX
25	Solvent Extractables	Oil and grease		XXX			XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)				XXX	XXX	XXX	XXX	
E1	Metals	Iron				XXX			XXX	XXX
E3	Diethanolamine	Diethanolamine					XXX			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE D - BRUCE HEAVY WATER PLANTS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX		XXX
		Total Kjeldahl nitrogen			XXX
4b		Nitrate + Nitrite			XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum			
		Beryllium			
		Boron			
		Cadmium			
		Chromium			
		Cobalt			
		Copper	XXX	XXX	XXX
		Lead			
		Lithium			
		Molybdenum			
		Nickel			

MONITORING SCHEDULE D - BRUCE HEAVY WATER PLANTS

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent	Emergency Overflow
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Silver			
		Strontium			
		Thallium			
		Vanadium			
		Zinc	XXX	XXX	XXX
12	Mercury	Mercury			
14	Phenolics (4AAP)	Phenolics (4AAP)			
15	Sulphide	Sulphide			XXX
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	XXX		
E1	Metals	Iron	XXX	XXX	XXX
E3	Diethanolamine	Diethanolamine			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Condensate Plant Water Treatment Plant				Steam Transformer Plant "O"			
		STREAM TYPE:	Process Effluent				Process Effluent				Combined Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen	Ammonia plus Ammonium		XXX						XXX			XXX	
		Total Kjeldahl nitrogen		XXX					XXX				XXX	
4b		Nitrate + Nitrite		XXX					XXX					XXX
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX				XXX				XXX		
5b		Total organic carbon (TOC) (NOTE 1)		XXX				XXX				XXX		
6	Total phosphorus	Total phosphorus		XXX						XXX				XXX
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX					XXX				XXX		
		Volatile suspended solids (VSS)		XXX										
9	Total metals	Aluminum			XXX				XXX					XXX
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium			XXX					XXX				XXX
		Cobalt			XXX				XXX					XXX
		Copper		XXX				XXX				XXX		
		Lead				XXX				XXX				XXX
		Lithium				XXX				XXX				XXX
		Molybdenum			XXX					XXX				XXX

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Condensate Plant Water Treatment Plant				Steam Transformer Plant "O"			
		STREAM TYPE:	Process Effluent				Process Effluent				Combined Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Nickel			XXX					XXX				XXX
		Silver				XXX				XXX				XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium			XXX					XXX				XXX
		Zinc		XXX				XXX				XXX		
10	Hydrides	Antimony												
		Arsenic												
		Selenium												
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)			XXX					XXX				XXX
12	Mercury	Mercury			XXX									
14	Phenolics (4AAP)	Phenolics (4AAP)											XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX				XXX				
		1,1,2-Trichloroethane				XXX				XXX				
		1,1-Dichloroethane				XXX				XXX				
		1,1-Dichloroethylene				XXX				XXX				
		1,2-Dichlorobenzene				XXX				XXX				
		1,2-Dichloroethane (Ethylene dichloride)				XXX				XXX				
		1,2-Dichloropropane				XXX				XXX				
		1,3-Dichlorobenzene				XXX				XXX				
		1,4-Dichlorobenzene				XXX				XXX				
		Bromodichloromethane				XXX				XXX				
		Bromoform				XXX				XXX				

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Condensate Plant Water Treatment Plant				Steam Transformer Plant "O"			
		STREAM TYPE:	Process Effluent				Process Effluent				Combined Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
16	Volatiles, Halogenated (continued)	Bromomethane				XXX				XXX				
		Carbon tetrachloride				XXX				XXX				
		Chlorobenzene				XXX				XXX				
		Chloroform			XXX					XXX				
		Chloromethane				XXX				XXX				
		Cis-1,3-Dichloropropylene				XXX				XXX				
		Dibromochloromethane				XXX				XXX				
		Ethylene dibromide				XXX				XXX				
		Methylene chloride				XXX				XXX				
		Tetrachloroethylene (Perchloroethylene)				XXX				XXX				
		Trans-1,2-Dichloroethylene				XXX				XXX				
		Trans-1,3-Dichloropropylene				XXX				XXX				
		Trichloroethylene				XXX				XXX				
		Trichlorofluoromethane				XXX			XXX					
		Vinyl chloride (Chloroethylene)				XXX				XXX				
17	Volatiles, Non-Halogenated	Benzene								XXX				
		Ethylbenzene								XXX				
		Styrene								XXX				
		Toluene							XXX					
		o-Xylene								XXX				
		m-Xylene and p-Xylene								XXX				
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin								XXX				
		Octachlorodibenzo-p-dioxin								XXX				
		Octachlorodibenzofuran								XXX				
		Total heptachlorinated dibenzo-p-dioxins								XXX				
		Total heptachlorinated dibenzofurans								XXX				

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Condensate Plant Water Treatment Plant				Steam Transformer Plant "O"			
		STREAM TYPE:	Process Effluent				Process Effluent				Combined Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans (continued)	Total hexachlorinated dibenzo-p-dioxins								XXX				
		Total hexachlorinated dibenzofurans								XXX				
		Total pentachlorinated dibenzo-p-dioxins								XXX				
		Total pentachlorinated dibenzofurans								XXX				
		Total tetrachlorinated dibenzo-p-dioxins								XXX				
		Total tetrachlorinated dibenzofurans								XXX				
25	Solvent Extractables	Oil and grease				XXX			XXX				XXX	
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)												XXX
E1	Metals	Iron		XXX				XXX				XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Steam Transformer Plant "A"				Bruce Nuclear Waste Storage Site	Unnamed	Unnamed
		STREAM TYPE:	Combined Effluent				Waste Disposal Site Effluent	Once Through Cooling Water	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No				No	No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium			XXX		XXX		XXX
		Total Kjeldahl nitrogen			XXX		XXX		
4b		Nitrate + Nitrite				XXX	XXX		
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX			XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)		XXX			XXX	XXX	XXX
6	Total phosphorus	Total phosphorus				XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX				XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)		XXX			XXX	XXX	XXX
		Volatile suspended solids (VSS)							
9	Total metals	Aluminum				XXX		XXX	
		Beryllium				XXX		XXX	
		Boron				XXX		XXX	
		Cadmium				XXX		XXX	
		Chromium				XXX		XXX	
		Cobalt				XXX		XXX	
		Copper		XXX			XXX	XXX	XXX
		Lead				XXX		XXX	
		Lithium				XXX		XXX	
		Molybdenum				XXX		XXX	

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Steam Transformer Plant "A"				Bruce Nuclear Waste Storage Site	Unnamed	Unnamed
		STREAM TYPE:	Combined Effluent				Waste Disposal Site Effluent	Once Through Cooling Water	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No				No	No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
9	Total metals (continued)	Nickel				XXX		XXX	
		Silver				XXX		XXX	
		Strontium				XXX		XXX	
		Thallium				XXX		XXX	
		Vanadium				XXX		XXX	XXX
		Zinc		XXX			XXX	XXX	XXX
10	Hydrides	Antimony							
		Arsenic							
		Selenium							
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)				XXX		XXX	
12	Mercury	Mercury							
14	Phenolics (4AAP)	Phenolics (4AAP)			XXX		XXX	XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane							
		1,1,2-Trichloroethane							
		1,1-Dichloroethane							
		1,1-Dichloroethylene							
		1,2-Dichlorobenzene							
		1,2-Dichloroethane (Ethylene dichloride)							
		1,2-Dichloropropane							
		1,3-Dichlorobenzene							
		1,4-Dichlorobenzene							
		Bromodichloromethane							
		Bromoform							

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Steam Transformer Plant "A"				Bruce Nuclear Waste Storage Site	Unnamed	Unnamed
		STREAM TYPE:	Combined Effluent				Waste Disposal Site Effluent	Once Through Cooling Water	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No				No	No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
16	Volatiles, Halogenated (continued)	Bromomethane							
		Carbon tetrachloride							
		Chlorobenzene							
		Chloroform							
		Chloromethane							
		Cis-1,3-Dichloropropylene							
		Dibromochloromethane							
		Ethylene dibromide							
		Methylene chloride							
		Tetrachloroethylene (Perchloroethylene)							
		Trans-1,2-Dichloroethylene							
		Trans-1,3-Dichloropropylene							
		Trichloroethylene							
		Trichlorofluoromethane							
		Vinyl chloride (Chloroethylene)							
17	Volatiles, Non-Halogenated	Benzene							
		Ethylbenzene							
		Styrene							
		Toluene							
		o-Xylene							
		m-Xylene and p-Xylene							
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin							
		Octachlorodibenzo-p-dioxin							
		Octachlorodibenzofuran							
		Total heptachlorinated dibenzo-p-dioxins							
		Total heptachlorinated dibenzofurans							

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Steam Transformer Plant "A"				Bruce Nuclear Waste Storage Site	Unnamed	Unnamed
		STREAM TYPE:	Combined Effluent				Waste Disposal Site Effluent	Once Through Cooling Water	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No				No	No	No
		FREQUENCY OF SAMPLING:	D	TW	W	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED							
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans (continued)	Total hexachlorinated dibenzo-p-dioxins							
		Total hexachlorinated dibenzofurans							
		Total pentachlorinated dibenzo-p-dioxins							
		Total pentachlorinated dibenzofurans							
		Total tetrachlorinated dibenzo-p-dioxins							
		Total tetrachlorinated dibenzofurans							
25	Solvent Extractables	Oil and grease			XXX		XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)				XXX		XXX	
E1	Metals	Iron		XXX			XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum	XXX	
		Beryllium	XXX	
		Boron		
		Cadmium		
		Chromium	XXX	
		Cobalt	XXX	
		Copper	XXX	XXX
		Lead		
		Lithium		
		Molybdenum	XXX	

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Nickel	XXX	
		Silver		
		Strontium		
		Thallium		
		Vanadium	XXX	
		Zinc	XXX	XXX
10	Hydrides	Antimony		
		Arsenic		
		Selenium		
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)		
12	Mercury	Mercury		
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		
		1,1,2-Trichloroethane		
		1,1-Dichloroethane		
		1,1-Dichloroethylene		
		1,2-Dichlorobenzene		
		1,2-Dichloroethane (Ethylene dichloride)		
		1,2-Dichloropropane		
		1,3-Dichlorobenzene		
		1,4-Dichlorobenzene		
		Bromodichloromethane		
		Bromoform		

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
16	Volatiles, Halogenated (continued)	Bromomethane		
		Carbon tetrachloride		
		Chlorobenzene		
		Chloroform		
		Chloromethane		
		Cis-1,3-Dichloropropylene		
		Dibromochloromethane		
		Ethylene dibromide		
		Methylene chloride		
		Tetrachloroethylene (Perchloroethylene)		
		Trans-1,2-Dichloroethylene		
		Trans-1,3-Dichloropropylene		
		Trichloroethylene		
		Trichlorofluoromethane		
		Vinyl chloride (Chloroethylene)		
17	Volatiles, Non-Halogenated	Benzene		
		Ethylbenzene		
		Styrene		
		Toluene		
		o-Xylene		
		m-Xylene and p-Xylene		
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans	2,3,7,8-Tetrachlorodibenzo-p-dioxin		
		Octachlorodibenzo-p-dioxin		
		Octachlorodibenzofuran		
		Total heptachlorinated dibenzo-p-dioxins		
		Total heptachlorinated dibenzofurans		

MONITORING SCHEDULE E - BRUCE NUCLEAR POWER DEVELOPMENT SERVICES

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Potentially Contaminated Building Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans (continued)	Total hexachlorinated dibenzo-p-dioxins		
		Total hexachlorinated dibenzofurans		
		Total pentachlorinated dibenzo-p-dioxins		
		Total pentachlorinated dibenzofurans		
		Total tetrachlorinated dibenzo-p-dioxins		
		Total tetrachlorinated dibenzofurans		
25	Solvent Extractables	Oil and grease	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)	XXX	
E1	Metals	Iron	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Unnamed				Water Treatment Plant			
		STREAM TYPE:	Process Effluent				Boiler Blowdown Effluent				Process Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX			
4a	Nitrogen (but see subsections 8(4) and 9(4))	Ammonia plus Ammonium		XXX				XXX						XXX
		Total Kjeldahl nitrogen		XXX					XXX				XXX	
4b		Nitrate + Nitrite		XXX					XXX				XXX	
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX				XXX				XXX		
5b		Total organic carbon (TOC) (NOTE 1)		XXX				XXX				XXX		
6	Total phosphorus	Total phosphorus		XXX				XXX					XXX	
7	Specific conductance	Specific conductance	XXX				XXX				XXX			
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX					XXX					XXX	
		Volatile suspended solids (VSS)		XXX										
9	Total metals	Aluminum			XXX				XXX				XXX	
		Beryllium				XXX				XXX				XXX
		Boron				XXX				XXX				XXX
		Cadmium				XXX				XXX				XXX
		Chromium			XXX				XXX					XXX
		Cobalt			XXX				XXX					XXX
		Copper		XXX				XXX				XXX		
		Lead				XXX		XXX						XXX
		Lithium				XXX				XXX				XXX
		Molybdenum			XXX				XXX					XXX
		Nickel			XXX					XXX				XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Unnamed				Water Treatment Plant			
		STREAM TYPE:	Process Effluent				Boiler Blowdown Effluent				Process Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
9	Total metals (continued)	Silver				XXX				XXX				XXX
		Strontium				XXX				XXX				XXX
		Thallium				XXX				XXX				XXX
		Vanadium				XXX				XXX				XXX
		Zinc		XXX				XXX				XXX		
10	Hydrides	Antimony				XXX				XXX				
		Arsenic				XXX			XXX					
		Selenium				XXX				XXX				
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)			XXX				XXX					XXX
12	Mercury	Mercury			XXX				XXX				XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX					XXX					XXX
15	Sulphide	Sulphide												
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX								XXX
		1,1,2-Trichloroethane				XXX								XXX
		1,1-Dichloroethane				XXX								XXX
		1,1-Dichloroethylene				XXX								XXX
		1,2-Dichlorobenzene				XXX								XXX
		1,2-Dichloroethane (Ethylene dichloride)				XXX								XXX
		1,2-Dichloropropane				XXX								XXX
		1,3-Dichlorobenzene				XXX								XXX
		1,4-Dichlorobenzene				XXX								XXX
		Bromodichloromethane				XXX								XXX
		Bromoform				XXX								XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

	NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Unnamed				Water Treatment Plant			
	STREAM TYPE:	Process Effluent				Boiler Blowdown Effluent				Process Effluent			
	ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
	FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP	PARAMETERS TO BE ANALYZED												
16 Volatiles, Halogenated (continued)	Bromomethane				XXX								XXX
	Carbon tetrachloride				XXX								XXX
	Chlorobenzene				XXX								XXX
	Chloroform		XXX									XXX	
	Chloromethane				XXX								XXX
	Cis-1,3-Dichloropropylene				XXX								XXX
	Dibromochloromethane			XXX								XXX	
	Ethylene dibromide				XXX								XXX
	Methylene chloride				XXX								XXX
	Tetrachloroethylene (Perchloroethylene)				XXX								XXX
	Trans-1,2-Dichloroethylene				XXX								XXX
	Trans-1,3-Dichloropropylene				XXX								XXX
	Trichloroethylene				XXX								XXX
	Trichlorofluoromethane				XXX								XXX
	Vinyl chloride (Chloroethylene)				XXX								XXX
17 Volatiles, Non-Halogenated	Benzene				XXX								
	Ethylbenzene				XXX								
	Styrene				XXX								
	Toluene			XXX									
	o-Xylene				XXX								
	m-Xylene and p-Xylene				XXX								
20 Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol				XXX								
	2,3,4,6-Tetrachlorophenol				XXX								
	2,3,5,6-Tetrachlorophenol				XXX								
	2,3,4-Trichlorophenol				XXX								
	2,3,5-Trichlorophenol				XXX								
	2,4,5-Trichlorophenol				XXX								

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Sewage Treatment Plant				Unnamed				Water Treatment Plant			
		STREAM TYPE:	Process Effluent				Boiler Blowdown Effluent				Process Effluent			
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No			
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED												
20	Extractables, Acid (Phenolics) (continued)	2,4,6-Trichlorophenol				XXX								
		2,4-Dimethyl phenol				XXX								
		2,4-Dinitrophenol				XXX								
		2,4-Dichlorophenol				XXX								
		2,6-Dichlorophenol				XXX								
		4,6-Dinitro-o-cresol				XXX								
		2-Chlorophenol				XXX								
		4-Chloro-3-methylphenol				XXX								
		4-Nitrophenol				XXX								
		m-Cresol				XXX								
		o-Cresol				XXX								
		p-Cresol				XXX								
		Pentachlorophenol				XXX								
		Phenol			XXX									
25	Solvent Extractables	Oil and grease		XXX					XXX				XXX	
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)			XXX									
E1	Metals	Iron		XXX				XXX				XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Tank 2	Tank 4	Site Lagoons
		STREAM TYPE:	Once Through Cooling Water	Equipment Cleaning Effluent	Equipment Cleaning Effluent	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium				
		Total Kjeldahl nitrogen	XXX	XXX		XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)				
9	Total metals	Aluminum	XXX	XXX	XXX	XXX
		Beryllium				
		Boron		XXX	XXX	XXX
		Cadmium				XXX
		Chromium	XXX	XXX	XXX	XXX
		Cobalt		XXX		XXX
		Copper	XXX	XXX	XXX	XXX
		Lead	XXX		XXX	
		Lithium				
		Molybdenum	XXX	XXX		XXX
		Nickel	XXX	XXX	XXX	XXX

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

			Unnamed	Tank 2	Tank 4	Site Lagoons
		NAME OF EFFLUENT STREAM:	Unnamed	Tank 2	Tank 4	Site Lagoons
		STREAM TYPE:	Once Through Cooling Water	Equipment Cleaning Effluent	Equipment Cleaning Effluent	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
9	Total metals (continued)	Silver				
		Strontium				
		Thallium				
		Vanadium	XXX	XXX		
		Zinc	XXX	XXX	XXX	XXX
10	Hydrides	Antimony		XXX	XXX	
		Arsenic		XXX	XXX	
		Selenium				
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)	XXX	XXX	XXX	XXX
12	Mercury	Mercury			XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX	XXX	
15	Sulphide	Sulphide				
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				
		1,1,2-Trichloroethane				
		1,1-Dichloroethane				
		1,1-Dichloroethylene				
		1,2-Dichlorobenzene				
		1,2-Dichloroethane (Ethylene dichloride)				
		1,2-Dichloropropane				
		1,3-Dichlorobenzene				
		1,4-Dichlorobenzene				
		Bromodichloromethane				
		Bromoform				

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

			Unnamed	Tank 2	Tank 4	Site Lagoons
		NAME OF EFFLUENT STREAM:	Unnamed	Tank 2	Tank 4	Site Lagoons
		STREAM TYPE:	Once Through Cooling Water	Equipment Cleaning Effluent	Equipment Cleaning Effluent	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
16	Volatiles, Halogenated (continued)	Bromomethane				
		Carbon tetrachloride				
		Chlorobenzene				
		Chloroform		XXX	XXX	
		Chloromethane				
		Cis-1,3-Dichloropropylene				
		Dibromochloromethane				
		Ethylene dibromide				
		Methylene chloride				
		Tetrachloroethylene (Perchloroethylene)				
		Trans-1,2-Dichloroethylene				
		Trans-1,3-Dichloropropylene				
		Trichloroethylene				
		Trichlorofluoromethane				
		Vinyl chloride (Chloroethylene)				
17	Volatiles, Non-Halogenated	Benzene				
		Ethylbenzene				
		Styrene				
		Toluene				
		o-Xylene				
		m-Xylene and p-Xylene				
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol				
		2,3,4,6-Tetrachlorophenol				
		2,3,5,6-Tetrachlorophenol				
		2,3,4-Trichlorophenol				
		2,3,5-Trichlorophenol				
		2,4,5-Trichlorophenol				

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Tank 2	Tank 4	Site Lagoons
		STREAM TYPE:	Once Through Cooling Water	Equipment Cleaning Effluent	Equipment Cleaning Effluent	Equipment Cleaning Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED				
20	Extractables, Acid (Phenolics) (continued)	2,4,6-Trichlorophenol				
		2,4-Dimethyl phenol				
		2,4-Dinitrophenol				
		2,4-Dichlorophenol				
		2,6-Dichlorophenol				
		4,6-Dinitro-o-cresol				
		2-Chlorophenol				
		4-Chloro-3-methylphenol				
		4-Nitrophenol				
		m-Cresol				
		o-Cresol				
		p-Cresol				
		Pentachlorophenol				
		Phenol		XXX	XXX	XXX
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)				
E1	Metals	Iron	XXX	XXX	XXX	XXX

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum	XXX	XXX	
		Beryllium			
		Boron			
		Cadmium			
		Chromium	XXX	XXX	
		Cobalt	XXX	XXX	
		Copper	XXX	XXX	XXX
		Lead			
		Lithium			
		Molybdenum	XXX	XXX	
		Nickel		XXX	

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Silver			
		Strontium			
		Thallium			
		Vanadium			
		Zinc	XXX	XXX	XXX
10	Hydrides	Antimony			
		Arsenic			
		Selenium			
11	Chromium (Hexavalent)	Chromium (Hexavalent) (NOTE 2)	XXX	XXX	
12	Mercury	Mercury			
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX	
15	Sulphide	Sulphide	XXX		
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane			
		1,1,2-Trichloroethane			
		1,1-Dichloroethane			
		1,1-Dichloroethylene			
		1,2-Dichlorobenzene			
		1,2-Dichloroethane (Ethylene dichloride)			
		1,2-Dichloropropane			
		1,3-Dichlorobenzene			
		1,4-Dichlorobenzene			
		Bromodichloromethane			
		Bromoform			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
16	Volatiles, Halogenated (continued)	Bromomethane			
		Carbon tetrachloride			
		Chlorobenzene			
		Chloroform			
		Chloromethane			
		Cis-1,3-Dichloropropylene			
		Dibromochloromethane			
		Ethylene dibromide			
		Methylene chloride			
		Tetrachloroethylene (Perchloroethylene)			
		Trans-1,2-Dichloroethylene			
		Trans-1,3-Dichloropropylene			
		Trichloroethylene			
		Trichlorofluoromethane			
		Vinyl chloride (Chloroethylene)			
17	Volatiles, Non-Halogenated	Benzene			
		Ethylbenzene			
		Styrene			
		Toluene			
		o-Xylene			
		m-Xylene and p-Xylene			
20	Extractables, Acid (Phenolics)	2,3,4,5-Tetrachlorophenol			
		2,3,4,6-Tetrachlorophenol			
		2,3,5,6-Tetrachlorophenol			
		2,3,4-Trichlorophenol			
		2,3,5-Trichlorophenol			
		2,4,5-Trichlorophenol			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE F - DARLINGTON NUCLEAR GENERATING STATION (under construction)

		NAME OF EFFLUENT STREAM:	Unnamed	Unnamed	Unnamed
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No
		FREQUENCY OF SAMPLING:	M	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
20	Extractables, Acid (Phenolics) (continued)	2,4,6-Trichlorophenol			
		2,4-Dimethyl phenol			
		2,4-Dinitrophenol			
		2,4-Dichlorophenol			
		2,6-Dichlorophenol			
		4,6-Dinitro-o-cresol			
		2-Chlorophenol			
		4-Chloro-3-methylphenol			
		4-Nitrophenol			
		m-Cresol			
		o-Cresol			
		p-Cresol			
		Pentachlorophenol			
		Phenol			
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	PCBs (Total)			
E1	Metals	Iron	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Sanitary Sewer				Powerhouse Drain				Waste Treatment Centre				Unnamed
		STREAM TYPE:	Process Effluent				Combined Effluent				Batch Discharge Effluent				Once Through Cooling Water
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED													
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX				XXX				XXX				XXX
4a	Nitrogen	Ammonia plus Ammonium			XXX					XXX		XXX			
		Total Kjeldahl nitrogen		XXX						XXX				XXX	
4b		Nitrate + Nitrite			XXX				XXX					XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)		XXX				XXX				XXX			XXX
5b		Total organic carbon (TOC) (NOTE 1)		XXX				XXX				XXX			XXX
6	Total phosphorus	Total phosphorus		XXX					XXX				XXX		XXX
7	Specific conductance	Specific conductance	XXX				XXX				XXX				XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX					XXX					XXX		XXX
		Volatile suspended solids (VSS)		XXX											
9	Total metals	Aluminum			XXX				XXX				XXX		XXX
		Beryllium				XXX				XXX				XXX	
		Boron				XXX				XXX				XXX	
		Cadmium				XXX				XXX				XXX	
		Chromium				XXX				XXX				XXX	
		Cobalt				XXX				XXX				XXX	
		Copper		XXX				XXX				XXX			XXX
		Lead			XXX					XXX				XXX	
		Lithium				XXX				XXX				XXX	
		Molybdenum				XXX				XXX				XXX	

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Sanitary Sewer				Powerhouse Drain				Waste Treatment Centre				Unnamed
		STREAM TYPE:	Process Effluent				Combined Effluent				Batch Discharge Effluent				Once Through Cooling Water
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED													
9	Total metals (continued)	Nickel			XXX					XXX				XXX	
		Silver				XXX				XXX				XXX	
		Strontium				XXX				XXX				XXX	
		Thallium				XXX				XXX				XXX	
		Vanadium				XXX				XXX				XXX	
		Zinc		XXX				XXX				XXX			XXX
10	Hydrides	Antimony													
		Arsenic													
		Selenium													
11	Chromium (Hexavalent)	Chromium (Hexavalent)				XXX				XXX				XXX	
12	Mercury	Mercury				XXX								XXX	
14	Phenolics (4AAP)	Phenolics (4AAP)		XXX					XXX					XXX	XXX
15	Sulphide	Sulphide													
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane				XXX									
		1,1,2-Trichloroethane				XXX									
		1,1-Dichloroethane				XXX									
		1,1-Dichloroethylene				XXX									
		1,2-Dichlorobenzene				XXX									
		1,2-Dichloroethane (Ethylene dichloride)				XXX									
		1,2-Dichloropropane				XXX									
		1,3-Dichlorobenzene				XXX									
		1,4-Dichlorobenzene				XXX									

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Sanitary Sewer				Powerhouse Drain				Waste Treatment Centre				Unnamed
		STREAM TYPE:	Process Effluent				Combined Effluent				Batch Discharge Effluent				Once Through Cooling Water
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED													
16	Volatiles, Halogenated (continued)	Bromodichloromethane				XXX									
		Bromoform				XXX									
		Bromomethane				XXX									
		Carbon tetrachloride				XXX									
		Chlorobenzene				XXX									
		Chloroform		XXX											
		Chloromethane				XXX									
		Cis-1,3-Dichloropropylene				XXX									
		Dibromochloromethane				XXX									
		Ethylene dibromide				XXX									
		Methylene chloride				XXX									
		Tetrachloroethylene (Perchloroethylene)				XXX									
		Trans-1,2-Dichloroethylene				XXX									
		Trans-1,3-Dichloropropylene				XXX									
		Trichloroethylene				XXX									
		Trichlorofluoromethane				XXX									
		Vinyl chloride (Chloroethylene)				XXX									
17	Volatiles, Non-Halogenated	Benzene				XXX								XXX	
		Styrene				XXX								XXX	
		Toluene				XXX								XXX	
		o-Xylene				XXX								XXX	
		m-Xylene and p-Xylene				XXX								XXX	
25	Solvent Extractables	Oil and grease		XXX					XXX				XXX		XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Sanitary Sewer				Powerhouse Drain				Waste Treatment Centre				Unnamed
		STREAM TYPE:	Process Effluent				Combined Effluent				Batch Discharge Effluent				Once Through Cooling Water
		ATG E2 DAILY MONITORING REQUIRED:	Yes				No				No				No
		FREQUENCY OF SAMPLING:	D	TW	W	M	D	TW	W	M	D	TW	W	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED													
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)								XXX					
E1	Metals	Iron		XXX				XXX				XXX			XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	01 Stream	02 Stream	03 Storm Sewer	04 Storm Sewer	05 Storm Sewer	Perch Creek
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Storm Water	Storm Water	Storm Water	Waste Disposal Site Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium		XXX				XXX
		Total Kjeldahl nitrogen		XXX				XXX
4b		Nitrate + Nitrite	XXX	XXX	XXX	XXX	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX	XXX	XXX	XXX
		Volatile suspended solids (VSS)						
9	Total metals	Aluminum	XXX	XXX	XXX	XXX	XXX	XXX
		Beryllium						
		Boron						
		Cadmium						
		Chromium						
		Cobalt	XXX					
		Copper	XXX	XXX	XXX	XXX	XXX	XXX
		Lead	XXX			XXX		
		Lithium						
		Molybdenum						

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	01 Stream	02 Stream	03 Storm Sewer	04 Storm Sewer	05 Storm Sewer	Perch Creek
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Storm Water	Storm Water	Storm Water	Waste Disposal Site Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
9	Total metals (continued)	Nickel	XXX					
		Silver						
		Strontium						
		Thallium						
		Vanadium	XXX					
		Zinc	XXX	XXX	XXX	XXX	XXX	XXX
10	Hydrides	Antimony						
		Arsenic						
		Selenium						
11	Chromium (Hexavalent)	Chromium (Hexavalent)						
12	Mercury	Mercury						
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX				XXX
15	Sulphide	Sulphide	XXX				XXX	XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane						
		1,1,2-Trichloroethane						
		1,1-Dichloroethane						
		1,1-Dichloroethylene						
		1,2-Dichlorobenzene						
		1,2-Dichloroethane (Ethylene dichloride)						
		1,2-Dichloropropane						
		1,3-Dichlorobenzene						
		1,4-Dichlorobenzene						

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	01 Stream	02 Stream	03 Storm Sewer	04 Storm Sewer	05 Storm Sewer	Perch Creek
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Storm Water	Storm Water	Storm Water	Waste Disposal Site Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
16	Volatiles, Halogenated (continued)	Bromodichloromethane						
		Bromoform						
		Bromomethane						
		Carbon tetrachloride						
		Chlorobenzene						
		Chloroform	XXX		XXX	XXX		
		Chloromethane						
		Cis-1,3-Dichloropropylene						
		Dibromochloromethane						
		Ethylene dibromide						
		Methylene chloride						
		Tetrachloroethylene (Perchloroethylene)						
		Trans-1,2-Dichloroethylene						
		Trans-1,3-Dichloropropylene						
		Trichloroethylene						
		Trichlorofluoromethane						
		Vinyl chloride (Chloroethylene)						
17	Volatiles, Non-Halogenated	Benzene	XXX					
		Styrene	XXX					
		Toluene	XXX					
		o-Xylene	XXX					
		m-Xylene and p-Xylene	XXX					
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	01 Stream	02 Stream	03 Storm Sewer	04 Storm Sewer	05 Storm Sewer	Perch Creek
		STREAM TYPE:	Storm Water	Waste Disposal Site Effluent	Storm Water	Storm Water	Storm Water	Waste Disposal Site Effluent
		ATG E2 DAILY MONITORING REQUIRED:	No	No	No	No	No	No
		FREQUENCY OF SAMPLING:	M	M	M	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED						
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)	XXX		XXX	XXX		
E1	Metals	Iron	XXX	XXX	XXX	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Duke Stream	Unnamed
		STREAM TYPE:	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX
4b		Nitrate + Nitrite	XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX
		Volatile suspended solids (VSS)		
9	Total metals	Aluminum	XXX	
		Beryllium		
		Boron		
		Cadmium		
		Chromium		
		Cobalt		
		Copper	XXX	XXX
		Lead		
		Lithium		
		Molybdenum		

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Duke Stream	Unnamed
		STREAM TYPE:	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
9	Total metals (continued)	Nickel		
		Silver		
		Strontium		
		Thallium		
		Vanadium		
		Zinc	XXX	XXX
10	Hydrides	Antimony		
		Arsenic		
		Selenium		
11	Chromium (Hexavalent)	Chromium (Hexavalent)		
12	Mercury	Mercury		
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	
15	Sulphide	Sulphide		
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane		
		1,1,2-Trichloroethane		
		1,1-Dichloroethane		
		1,1-Dichloroethylene		
		1,2-Dichlorobenzene		
		1,2-Dichloroethane (Ethylene dichloride)		
		1,2-Dichloropropane		
		1,3-Dichlorobenzene		
		1,4-Dichlorobenzene		

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Duke Stream	Unnamed
		STREAM TYPE:	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
16	Volatiles, Halogenated (continued)	Bromodichloromethane		
		Bromoform		
		Bromomethane		
		Carbon tetrachloride		
		Chlorobenzene		
		Chloroform		
		Chloromethane		
		Cis-1,3-Dichloropropylene		
		Dibromochloromethane		
		Ethylene dibromide		
		Methylene chloride		
		Tetrachloroethylene (Perchloroethylene)		
		Trans-1,2-Dichloroethylene		
		Trans-1,3-Dichloropropylene		
		Trichloroethylene		
		Trichlorofluoromethane		
		Vinyl chloride (Chloroethylene)		
17	Volatiles, Non-Halogenated	Benzene		
		Styrene		
		Toluene		
		o-Xylene		
		m-Xylene and p-Xylene		
25	Solvent Extractables	Oil and grease	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE G - CHALK RIVER NUCLEAR LABORATORIES

		NAME OF EFFLUENT STREAM:	Duke Stream	Unnamed
		STREAM TYPE:	Waste Disposal Site Effluent	Emergency Overflow
		ATG E2 DAILY MONITORING REQUIRED:	No	No
		FREQUENCY OF SAMPLING:	M	during discharge
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED		
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)		
E1	Metals	Iron	XXX	XXX

MONITORING SCHEDULE H - DOUGLAS POINT WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX
		Total Kjeldahl nitrogen			
4b		Nitrate + Nitrite			
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum			
		Beryllium			
		Boron			
		Cadmium			
		Chromium			
		Cobalt			
		Copper	XXX	XXX	XXX
		Lead			
		Lithium			
		Molybdenum			
		Nickel			

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE H - DOUGLAS POINT WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Silver			
		Strontium			
		Thallium			
		Vanadium			
		Zinc	XXX	XXX	XXX
14	Phenolics (4AAP)	Phenolics (4AAP)			
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)			XXX
E1	Metals	Iron	XXX	XXX	XXX

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE I - NUCLEAR POWER DEMONSTRATION WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
3	Hydrogen ion (pH)	Hydrogen ion (pH)	XXX	XXX	XXX
4a	Nitrogen	Ammonia plus Ammonium	XXX	XXX	XXX
		Total Kjeldahl nitrogen	XXX	XXX	XXX
4b		Nitrate + Nitrite		XXX	XXX
5a	Organic carbon	Dissolved organic carbon (DOC)	XXX	XXX	XXX
5b		Total organic carbon (TOC) (NOTE 1)	XXX	XXX	XXX
6	Total phosphorus	Total phosphorus	XXX	XXX	XXX
7	Specific conductance	Specific conductance	XXX	XXX	XXX
8	Suspended solids (TSS/VSS)	Total suspended solids (TSS)	XXX	XXX	XXX
		Volatile suspended solids (VSS)			
9	Total metals	Aluminum	XXX	XXX	XXX
		Beryllium			
		Boron			
		Cadmium			
		Chromium			
		Cobalt			
		Copper	XXX	XXX	XXX
		Lead			
		Lithium			
		Molybdenum			
		Nickel			

MONITORING SCHEDULE I - NUCLEAR POWER DEMONSTRATION WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
9	Total metals (continued)	Silver			
		Strontium			
		Thallium			
		Vanadium			
		Zinc	XXX	XXX	XXX
12	Mercury	Mercury	XXX		
14	Phenolics (4AAP)	Phenolics (4AAP)	XXX	XXX	XXX
16	Volatiles, Halogenated	1,1,2,2-Tetrachloroethane			
		1,1,2-Trichloroethane			
		1,1-Dichloroethane			
		1,1-Dichloroethylene			
		1,2-Dichlorobenzene			
		1,2-Dichloroethane (Ethylene dichloride)			
		1,2-Dichloropropane			
		1,3-Dichlorobenzene			
		1,4-Dichlorobenzene	XXX		
		Bromodichloromethane			
		Bromoform			
		Bromomethane			
		Carbon tetrachloride	XXX		
		Chlorobenzene			
		Chloroform			
		Chloromethane			
		Cis-1,3-Dichloropropylene			
		Dibromochloromethane			
		Ethylene dibromide			

MONITORING SCHEDULE I - NUCLEAR POWER DEMONSTRATION WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
16	Volatiles, Halogenated (continued)	Methylene chloride			
		Tetrachloroethylene (Perchloroethylene)			
		Trans-1,2-Dichloroethylene			
		Trans-1,3-Dichloropropylene			
		Trichloroethylene			
		Trichlorofluoromethane	XXX		
		Vinyl chloride (Chloroethylene)			
17	Volatiles, Non-Halogenated	Benzene			
		Styrene			
		Toluene	XXX		
		o-Xylene			
		m-Xylene and p-Xylene			
19	Extractables, Base Neutral	Acenaphthene			
		5-nitro Acenaphthene			
		Acenaphthylene			
		Anthracene			
		Benz(a)anthracene			
		Benzo(a)pyrene			
		Benzo(b)fluoranthene			
		Benzo(g,h,i)perylene			
		Benzo(k)fluoranthene			
		Biphenyl			
		Camphene			
		1-Chloronaphthalene			
		2-Chloronaphthalene			
		Chrysene			
		Dibenz(a,h)anthracene			

MONITORING SCHEDULE I - NUCLEAR POWER DEMONSTRATION WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
19	Extractables, Base Neutral (continued)	Fluoranthene		XXX	XXX
		Fluorene			
		Indeno(1,2,3-cd)pyrene			
		Indole			
		1-Methylnaphthalene			
		2-Methylnaphthalene			
		Naphthalene			
		Perylene			
		Phenanthrene			
		Pyrene			
		Benzyl butyl phthalate			
		Bis(2-ethylhexyl) phthalate			
		Di-n-butyl phthalate			
		4-Bromophenyl phenyl ether			
		4-Chlorophenyl phenyl ether			
		Bis(2-chloroisopropyl)ether			
		Bis(2-chloroethyl)ether			
		Diphenyl Ether			
		2,4-Dinitrotoluene			
		2,6-Dinitrotoluene			
		Bis(2-chloroethoxy)methane			
		Diphenylamine			
		N-Nitrosodiphenylamine			
		N-Nitrosodi-n-propylamine			
25	Solvent Extractables	Oil and grease	XXX	XXX	XXX
27	Polychlorinated Biphenyls (PCBs) (Total)	(PCBs) (Total)	XXX		

EFFLUENT MONITORING REGULATION - ELECTRIC POWER GENERATION SECTOR

MONITORING SCHEDULE I - NUCLEAR POWER DEMONSTRATION WASTE MANAGEMENT FACILITY

		NAME OF EFFLUENT STREAM:	Unnamed	Outside Sump	Unnamed
		STREAM TYPE:	Potentially Contaminated Building Effluent	Storm Water	Storm Water
		FREQUENCY OF SAMPLING:	M	M	M
ANALYTICAL TEST GROUP		PARAMETERS TO BE ANALYZED			
E1	Metals	Iron	XXX	XXX	XXX

PART D

EXPLANATORY NOTES

TO THE

EFFLUENT MONITORING REGULATION

FOR THE

ELECTRIC POWER GENERATION SECTOR

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PART D EXPLANATORY NOTES TO THE EFFLUENT MONITORING REGULATION FOR THE ELECTRIC POWER GENERATION SECTOR

INTRODUCTION

The Explanatory Notes provide, where appropriate, an expanded description of each of the sections in the Effluent Monitoring Regulation for the Electric Power Generation Sector (EPGS) in order to further the reader's understanding of the effluent monitoring regulation requirements.

In conjunction with the protocols and procedures outlined in Ontario Regulation 695/88, the General Effluent Monitoring Regulation (also referred to as the General Regulation), the EPGS Regulation specifies the effluent monitoring requirements for each discharger, including sampling, analysis, flow measurement, toxicity testing and reporting.

SECTION 1: DEFINITIONS

This section does not redefine terms which are already defined in the Environmental Protection Act under which the EPGS Regulation is written.

This section of the Regulation provides:

- clarification of terms used in the Regulation that could have several interpretations;

- definitions of technical terms used in the Regulation which may not be in common usage;

- definitions for those terms which have a different meaning in the Regulation than those found in a dictionary or through common use;

- definitions of terms with an alternate use in the EPGS Regulation from that in the General Regulation; and

- definitions of terms specific to the EPG Sector.

Subsection 1(2) states that the definitions in section 1 of the General Regulation also apply to this Regulation. However, any re-defined term in the EPGS Regulation supercedes that of the General Regulation.

All of the definitions in the General Regulation have been applied to the EPGS Regulation with the following exceptions:

- "batch discharge effluent stream" has been redefined in the EPGS Regulation to designate specific effluent streams as batch discharge effluent streams identified as such in a monitoring schedule.
- "batch discharge effluent" means effluent in a "batch discharge effluent stream".
- "characterization" has been redefined in the EPGS Regulation to reflect the EPG Sector characterization list.
- "once-through cooling water sampling point" has been redefined in the EPGS Regulation to reflect the monitoring point after the addition of process effluents where applicable.
- "process effluent" has been redefined to include effluent that is discharged from any pollution control system or device or effluent that comes into contact by design with any industrial process.

The following definitions are included in the EPGS Regulation rather than the General Regulation as they are referred to only in the context of the EPGS Regulation:

- boiler blowdown effluent;
- boiler blowdown effluent sampling point;
- boiler blowdown effluent stream;
- boiler blowdown water;
- chlorination sampling point;
- coal pile effluent;
- coal pile effluent sampling point;
- coal pile effluent stream;
- equipment cleaning effluent;
- equipment cleaning effluent sampling point;
- equipment cleaning effluent stream;
- event discharge effluent;
- event discharge effluent sampling point;
- event discharge effluent stream;
- potentially contaminated building effluent;
- potentially contaminated building effluent sampling point;
- potentially contaminated building effluent stream;
- temperature measurement point.

SECTION 2: PURPOSE

The purpose of the EPGS Regulation is to establish a data base on effluent quality in the Electric Power Generation Sector that, along with other pertinent information such as available treatment technology, will be used in the development of effluent limits for the EPG Sector. The data base will also be used to calculate the mass loadings of monitored contaminants discharged into surface watercourses.

SECTION 3: APPLICATION

Section 3 lists the electric power generation stations and associated facilities to which this Regulation applies and indicates that there are category-specific monitoring schedules within the Regulation which apply to each plant or associated facility.

The link with the General Regulation is established by stating that all monitoring obligations of the EPGS Regulation shall be carried out in accordance with the General Regulation and that this Regulation is a Sectoral Effluent Monitoring Regulation in the context of the General Regulation.

Subsections 3(6) and 3(7) state the sampling and analytical obligations in relation to samples to be analyzed for analytical test groups E1(Iron), E2(Total Residual Oxidants) and E3(Diethanolamine).

Subsection 3(10) allows the direct discharger to submit to the laboratory performing the analysis the minimum sample volume required by the laboratory to meet the analytical method detection limits set out in Column 6 of Schedule CC.

Subsection 3(11) states that the requirements for boiler blowdown effluent and event discharge effluent to be similar to the monitoring obligations for process effluent. This section specifies that the obligations for process effluent as listed in the General Regulation are to be used for boiler blowdown effluent and event discharge effluent.

Subsection 3(12) states that the requirements for the coal pile effluent in accordance with the monitoring obligations for storm water. This section specifies that the obligations for storm water as listed in the General Regulation are to be used for coal pile effluent.

Subsection 3(13) states the requirements for the following effluents:

- equipment cleaning effluent
- potentially contaminated building effluent

The above listed effluents will be required to satisfy the monitoring obligations in accordance with those required by the General Regulation for waste disposal site effluent.

Subsection 3(14) prescribes the sampling and analytical obligations of this Regulation in relation to boron, lithium, strontium, bromodichloromethane, biphenyl and diphenyl ether that are not covered in the General Regulation by referencing to the Notes A to F to Schedule AA.

Subsection 3(15) relates to the requirements performed by persons other than the direct discharger. That is, a consultant or laboratory that collects and/or analyses the samples for the discharger has in effect carried out the obligations of that discharger.

Subsection 3(16) of this section allows the Regional Director of the Ministry to suspend the monitoring requirements under sections 4 through 21 of the Regulation for a specific effluent stream. This subsection is intended to allow a plant to suspend monitoring if the effluent no longer exists (i.e. it is re-routed to treatment or it is no longer produced) or if the stream classification is changed.

In case of conflicting requirements, it is the intent of the Ministry that the MISA Regulation requirements shall replace the monitoring requirements for those effluents under Certificates of Approval or Control Orders for the duration of the Regulation unless those requirements are more stringent. This override will not extend to any effluent stream not monitored in the Regulation and for which monitoring is required to assess the performance of various treatment systems or processes.

SECTION 4: SAMPLING AND TEMPERATURE MEASUREMENT POINTS

This section states that a sampling and temperature measurement point must be established by the direct discharger for each effluent stream specified in the monitoring schedules and the Regulation. These sampling and temperature measurement points must be used for all sampling and temperature measurement required by the EPGS Regulation unless an alternate sampling or temperature measurement location is deemed acceptable by a Regional Director of the Ministry of the Environment.

It should be noted that not all plants within a category (e.g. fossil-fuelled thermal generating stations, Category A) necessarily have all the effluent streams listed in the monitoring schedules (e.g. mothballed stations do not have the various process effluents).

The once-through cooling water temperature measurement points may be different than the effluent sampling points, as equipment is already installed in most cases. Also, the cooling water intake temperature is required, but no intake sampling is specified. The plants may choose to monitor intake once-through cooling water if they wish.

Subsections (2) to (4) state that although all storm water sampling points require to be identified, in the case of similar storm water catchment areas, only the dirtiest need be established as a storm water sampling point. By similar catchment area as used in this Regulation implies same land use for that catchment area. A catchment area in the context of this Regulation means the area serviced by a storm water system.

Subsections (6) to (8) refer to the once-through cooling water streams on which a temperature measurement point is to be established. Only plants listed in Category A, C, D, and G require the establishment of temperature measurement points.

Subsection (10) states that for boiler blowdown effluent automatic or manual flow proportional composite sampling is not required. Equal volume sub-samples at equal time intervals not exceeding 15 minutes in case of automatic sampling or eight grab samples at equal time intervals through an operating day combined in equal volumes is acceptable.

Subsection (11) states that the event discharge effluent streams (ie. oily water separators) at Category C plants require a single grab sample during the second half of a discharge.

Subsection (12) states that all characterization, open characterization, thrice weekly, weekly and monthly monitoring for those process, combined, batch or boiler blowdown effluent streams flowing into a once-through cooling water stream shall be sampled on the same days to the extent feasible according to the monitoring requirements.

SECTION 5: BOILER BLOWDOWN EFFLUENT MONITORING SCHEDULE

The generation of high pressure steam is one of the most important steps in electric power generation at both fossil-fuelled and nuclear-powered thermal generating stations. Continuous and/or intermittent discharge of about one percent of the water in the steam cycle is required for the proper operation of the steam boilers. This discharge is called boiler blowdown effluent and is classified as a process effluent in this Regulation.

Boiler blowdown effluent is monitored at each of the fossil-fuelled and nuclear-powered generating stations on a rotational basis for each of the boiler units at a station. This requirement reflects the fact that the

boiler blowdown effluent quality should be consistent across the boiler units at the stations. The rotational schedule (see Schedule 6 in the Technical Rationale) provides for a minimum of twelve samples to be collected from each station, regardless of the number of boiler units at a station. At stations having two or more boiler blowdown effluent sampling points, this method provides for rotation of sampling points on a monthly basis between the power generation units at a station and for sampling each operational unit for boiler blowdown effluent at a minimum frequency of twice per year. Sampling for individual units will be spread over the year of monitoring.

At least one boiler blowdown effluent stream shall be monitored each month.

The sampling schedule (choice of months) for individual units is to be determined based on factors such as unit outage schedule and the transfer of sampling equipment between units. To the extent allowed by the operating schedule, the sampling months for each unit will be spread evenly throughout the year. Schedule 6 in the Technical Rationale is an example of such a schedule for the fossil- fuelled and nuclear-powered thermal generating stations.

Sampling requirements for boiler blowdown are defined specifically for this stream. Flow proportional samplers will not be used for boiler blowdown because the effluent flow will not be measured but, instead, will be estimated from boiler water make-up rates (see pg D-20). Also, boiler blowdown samples at Pickering NGS-A and NGS-B can be obtained from existing sampling lines from the boiler. These samples are considered representative because they are obtained from a point in the boiler which is adjacent to the point from which boiler blowdown effluent discharges.

SECTION 6: CHARACTERIZATION / OPEN CHARACTERIZATION

Characterization/open characterization samples must be collected and analyzed according to the principles and protocols outlined in sections 3 and 4 of the General Regulation for sampling and analysis respectively.

Subsection (1) states that quarterly characterization and open characterization sampling and analyses is required from each process effluent, batch discharge effluent, combined effluent, event discharge effluent and boiler blowdown effluent samples under this Regulation.

Sampling intervals (subsection (1)) are specified in the Regulation to ensure that the samples are representative of discrete events and to provide an indication of seasonal impact on the effluents.

Collection of the samples for analysis for characterization shall be on the same day as samples for toxicity tests are required. This will provide a longer list of pollutants to assist in the proper assessment of toxicity tests.

Characterization requires collecting and analyzing a sample for the parameters listed in Column 2 of Schedule AA in the Regulation, which lists conventional parameters and the EPG Sector List. The following analytical test groups are required for characterization:

-	Group 1	Chemical Oxygen Demand (COD);
-	Group 2	Cyanide;
-	Group 3	Hydrogen ion (pH);
-	Group 4a	Ammonia plus Ammonium; Total Kjeldahl nitrogen;
-	Group 4b	Nitrate + Nitrite;
-	Group 5a	Dissolved Organic Carbon (DOC);
-	Group 5b	Total Organic Carbon (TOC) (only if TSS > 15 mg/L);
-	Group 6	Total Phosphorus;
-	Group 7	Specific conductance;
-	Group 8	Total Suspended Solids (TSS); Volatile Suspended Solids (VSS);
-	Group 9	Total metals;
-	Group 10	Hydrides;
-	Group 11	Chromium (Hexavalent) (only if Total Cr > 1 mg/L);
-	Group 12	Mercury;
-	Group 14	Phenolics (4AAP);
-	Group 15	Sulphide;
-	Group 16	Volatiles, Halogenated;
-	Group 17	Volatiles, Non-Halogenated;
-	Group 19	Extractables, Base Neutral;
-	Group 20	Extractables, Acid (Phenolics);
-	Group 23	Extractables, Neutral Chlorinated;
-	Group 24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans;
-	Group 25	Solvent Extractables;
-	Group 27	PCBs (Total).
-	E1	Iron

COD is a requirement for characterization but not for routine monitoring. COD has been included to provide a comparison with DOC and also to give an indication of the presence of oxidizable material other than organics, such as metals. COD is a measure of the maximum oxidizable material in the effluent.

Analytical test group 2 (Cyanides) are not included for routine monitoring as they were not found in this sector as evidenced by pre-regulation monitoring analysis. Cyanides are included for characterization.

Analytical test groups 13 (total alkyl lead) and 18 (Volatiles, water soluble) are excluded as they are not applicable to this sector. No evidence of their presence was indicated in the pre-regulation monitoring data base. Also, these chemicals are not used at the sector

sites.

Analytical test groups 21 (Extractables, Phenoxy Acid Herbicides) and 22 (Extractables, Organochlorine Pesticides) are excluded from characterization as they are not listed on EMPPL and are currently not manufactured in Ontario. Groups 26a (Fatty Acids) and 26b (Resin Acids) are currently excluded from characterization because there are no validated analytical protocols for these.

Analytical data from daily, thrice weekly, weekly and monthly sampling may be used toward fulfilling the characterization requirements, provided that all samples were taken on the same day and that protocols required for characterization were followed.

Open characterization (open scan) of the samples is required at the same frequency as characterization, to determine the presence of both organic compounds (ATG 28a & 28b) and inorganic elements (ATG 29) which are currently not on the EMPPL. Any compounds identified in open characterization, that are not on the EMPPL, will be screened through a hazard assessment procedure and added to EMPPL if appropriate.

Subsection (2) provides for a compensating sample as soon as possible, should a sample not be collected in a given quarter.

Subsection (3) provides for sampling the pond/lagoon/lake feeding the event discharge effluent sampling point at Lambton TGS and Lakeview TGS in the case of no discharge in any month.

Subsection (6) states that an open characterization shall be performed on each sample collected for characterization.

A direct discharger need only fulfill the requirements of this section 6 in four consecutive quarters. Because monitoring is expected to commence on June 1, 1990, an end of a quarter, the direct discharger is urged to commence characterization/open characterization during the quarter beginning July 1, 1990. This should provide a more representative database corresponding to the period of monitoring.

MONITORING

The requirements for monitoring of effluents are specified in sections 7 through 18 and 20 of the EPGS Regulation.

All monitoring samples must be collected and analyzed according to the principles and protocols outlined in sections 3 and 4 of the General Regulation for sampling and analysis respectively.

SECTION 7: DAILY MONITORING

All process effluent, combined effluent, batch discharge effluent or boiler blowdown effluent must be monitored for the following analytical test groups:

- Group 3 Hydrogen ion (pH);
- Group 7 Specific conductance.

It is preferable that these parameters be monitored continuously using on-line analyzers to provide a record of the variability. However, the samples may be collected and analyzed using composite sampling method.

Requests to use on-line analyzers for monitoring of parameters other than pH or specific conductance must be submitted to the Ministry for approval by the Regional Director along with sufficient data to prove that it meets MISA standards.

Subsection 4(18) of the General Regulation requires a monthly sample to be collected from each sampling point at which an on-line analyzer is used and analyzed for the parameters for which the on-line analyzer is monitoring. This will provide an indication of the accuracy of the on-line analyzer by providing an average value around which the on-line analyzer data should fluctuate.

For all process effluents, combined effluents, batch discharge effluent and boiler blowdown effluent, daily pH and specific conductance analyses are required. In addition, stations which have biological treatment (sewage treatment plants) or ash transport water treatment systems must monitor for total suspended solids (TSS) and Total Residual Oxidants (TRO) on a daily basis.

Sulphides are monitored daily at the Heavy Water Plant Process Effluent Stream.

Where sites are already monitoring specific parameters on a daily basis, other than those listed above, they will continue to do so (e.g. continuous monitoring of condenser cooling water intake and outfall temperature).

SECTION 8: THRICE-WEEKLY MONITORING

All process effluents, combined effluent, batch discharge effluent and boiler blowdown effluent at fossil-fuelled thermal and nuclear-powered thermal generating stations must be sampled and analyzed on a thrice-weekly basis for the following analytical test parameters:

- Copper, Zinc, Iron

Monitoring for conventional and priority pollutants is required on an effluent-specific basis as outlined in the development document technical rationale.

Subsection (3) states that the Nanticoke TGS Ash Transport Water System effluent stream shall be monitored for selenium on a thrice-weekly basis.

Subsection (4) states that the boiler blowdown effluent streams at nuclear powered thermal generating stations and at Darlington NGS (under construction) need not be analyzed thrice-weekly for ammonia plus ammonium if ammonia is not added to recirculating boiler water.

Subsection (5) states that the boiler blowdown effluent streams at nuclear powered thermal generating stations need not be analyzed thrice-weekly for Dissolved Organic Carbon (DOC) or Total Organic Carbon (TOC) if morpholine is not added to recirculating boiler water.

SECTION 9: WEEKLY MONITORING

All process effluents, combined effluents, batch discharge effluent and boiler blowdown effluent must be sampled and analyzed on a weekly basis, if not already monitored at a higher frequency, for some or all of the following analytical test groups as outlined in the technical rationale.

-	Group 4a,4b	Nitrogen
-	Group 6	Total phosphorus
-	Group 9	Total metals (all for fossil-fuelled only)
-	Group 10	Hydrides
-	Group 11	Chromium (Hexavalent)
-	Others	if found > = Method Detection Limit (MDL) in pre-regulation monitoring.

A minimum of two days between consecutive weekly samples is required in order to increase sample randomness.

Weekly samples must be collected on the same day as a thrice weekly sample for the same effluent stream in order to provide as complete a set of analytical data on a given day as possible.

Subsection (3) requires that chloroform (ATG 16) also be analyzed for in the weekly samples collected from the Ash Transport Water System effluent stream and the Water Treatment Plant Neutralization Sump effluent stream at the Thunderbay TGS only.

Subsection (4) and (5) are complementary to subsections 8(4) and 8(5) and require weekly monitoring of ammonia plus ammonium and DOC/TOC respectively.

Subsection (6) requires that at Pickering NGS-A and NGS-B, the Radioactive Liquid Waste Management System Tanks (RLWMST) effluent stream samples are also analyzed for cadmium and lead in ATG 9.

SECTION 10: MONTHLY MONITORING

Process effluents, combined effluents, batch discharge effluent and boiler blowdown effluent, may require monthly analysis for any or all of the following analytical test groups based on effluent-specific considerations as outlined in the EPGS Regulation development document (Part B):

-	Group 9	Total metals;
-	Group 10	Hydrides;
-	Group 11	Chromium (Hexavalent) (only if Total Cr > 1 mg/L);
-	Group 12	Mercury;
-	Group 14	Phenolics (4AAP);
-	Group 15	Sulphide;
-	Group 16	Volatiles, Halogenated;
-	Group 17	Volatiles, Non-Halogenated;
-	Group 19	Extractables, Base Neutral;
-	Group 20	Extractables, Acid (Phenolics);
-	Group 23	Extractables, Neutral Chlorinated;
-	Group 24	Chlorinated Dibenzo-p-dioxins and Dibenzofurans;
-	Group 27	PCBs (Total);
-	Group E1	Iron;
-	Group E3	Diethanolamine.

An interval of two weeks between successive monthly samples is required in order to provide independent samples over as wide a range of operating conditions as possible.

Subsection (3) requires that at Pickering NGS-A and NGS-B, the RLWMST effluent stream samples are also to be analyzed for ATG 24 every month.

Monthly samples must be collected on the same day as the thrice weekly and weekly samples for the same effluent stream in order to provide as complete a set of analytical data on that day as possible.

SECTION 11: EVENT DISCHARGE EFFLUENT MONITORING

The following effluent are event discharge effluent and shall require event monitoring:

- Heavy Water Plants Effluent Lagoon. The main process effluent stream is diverted into this lagoon when hydrogen sulphide levels exceed discharge limits set under the Certificate of Approval. Twelve samples and 4 characterizations/open characterizations are required over the twelve month monitoring period. No toxicity tests are required.

- Oily Water Separators at nuclear-powered thermal generating stations. These are located at Bruce NGS-A, Bruce NGS-B, Pickering NGS-A and NGS-B, and Darlington NGS, and usually discharge at least once every week. No toxicity tests are required on the Bruce NGS-A and Bruce NGS-B oily water separators. All the oily water separators shall require a minimum of twelve samples and 4 quarterly characterizations/open characterizations, 12 monthly toxicity tests (exceptions noted above) over the twelve month monitoring period. Grab samples during the second half of discharge period may be taken.

- Treated coal pile effluent at Lakeview TGS and Lambton TGS are event discharge effluent. The Lakeview TGS treated coal pile effluent treatment lagoons are usually discharged about five to ten times each year. The coal pile effluent at Lambton TGS is discharged into Lake Lambton which is periodically drained down into the St. Clair River through a ditch. The treated coal pile effluent shall require a minimum of twelve samples, 4 characterizations/open characterizations and 12 toxicity tests over the twelve month monitoring period. When there is no discharge in any month, the partially-treated effluent from the treatment lagoons at Lakeview TGS and Lake Lambton at Lambton TGS, respectively, may be sampled instead within 10 metres of the mouth of the respective sampling points.

Subsection (2) states that if a direct discharger is unable to collect a sample in any month from an event discharge effluent sampling point then a compensating set must be taken and analyzed as soon as possible.

SECTION 12: ONCE-THROUGH COOLING WATER MONITORING

A monthly sample from a once-through cooling water(OTCW) effluent stream should be collected on the same day as the process effluent, combined effluent, batch discharge effluent and boiler blowdown effluent which are being discharged to the OTCW effluent in order to provide a better indication of the quality of this stream on that day. The once-through cooling water effluent is generally discharged through the final outfall at each thermal generating station (both fossil-fuelled and nuclear). The various effluent streams such as: water treatment plant neutralization sump, boiler blowdown, ash transport water system, oily water separators, and yard and sump drains; all normally discharge into the once-through cooling water. This final outfall will be treated as a once-through cooling water stream in this Regulation.

Temperature of the OTCW intake and discharge require to be monitored continuously at fossil-fuelled and nuclear-powered thermal generating stations, the Bruce Heavy Water Plants, and the Chalk River Nuclear Laboratories. These temperature readings and computed temperature rise (discharge minus intake temperature) will be reported as daily averages under this Regulation in the format of minimum, maximum and mean for the day as stated in the Regulation.

Monitoring of total residual oxidants (TRO) for a representative affected condenser cooling water at a condenser water box (discharge end) during chlorination, at those sites using chlorination, shall be required.

An interval of two weeks between successive monthly samples is required in order to provide independent samples over as wide a range of operating conditions as possible.

Subsection (2) states that each set of samples collected from a once-through cooling water effluent stream shall be collected on the same day as samples collected for monthly monitoring under subsection 10(1) to allow for proper "worst case" analysis of this stream.

SECTION 13: TEMPERATURE MEASUREMENT - GENERAL

This section describes the continuous temperature measurement requirements at temperature measurement points established on once-through cooling water streams at Category A, C and D plants. Currently established temperature measurement points will be acceptable even if they are at a different location than the corresponding sampling point.

SECTION 14: TEMPERATURE MEASUREMENT - CHALK RIVER NUCLEAR LABORATORIES

This section describes the continuous temperature measurement requirements at temperature measurement points established on once-through cooling water stream at Chalk River Nuclear Laboratories. Currently established temperature measurement locations may be acceptable, even if they are different from corresponding sampling point location.

SECTION 15: MONTHLY MONITORING - STORM WATER AND COAL PILE EFFLUENT

A total of 12 samples, including two samples taken during thaw events, are required during storm water and coal pile effluent discharges at each affected storm water or coal pile effluent sampling point. Two thaw samples are needed from each storm water and coal pile effluent discharge to provide an indication of the losses of contaminants during the winter months.

In cases where samples cannot be collected from a storm water sampling point or coal pile effluent sampling point because of a lack of sufficient volume of discharge, an additional set of samples must be collected as soon as possible in order to provide a total of 12 data points in the monitoring year.

Samples should be collected towards the beginning of the discharge in order to catch the "first flush" effects. However, in cases where a retention structure is available to provide holdup time, a sample representative of the contents of the structure may be collected directly from the structure prior to its discharge.

The list of parameters to be analyzed reflect the process and plant areas from which the storm water and coal pile effluent originates and passes through. Pre-regulation monitoring data was used for defining monitoring requirements.

In the General Regulation, reference is made to "developed areas" in context of the storm water definition. Within the EPG Sector Regulation, the following criteria are intended to be used:

1. "Developed Area" is an outdoor area within the station boundary which routinely contains chemicals, except demineralized water, either in bulk storage, system equipment, or waste storage.

2. At Category C, nuclear-powered thermal generating stations these areas include, but, are not limited to:

    a) Combustion turbine unit fuel storage area
    b) Lube oil storage tank farm

c) Main, system and distribution transformers
d) Acid and caustic storage tanks
e) Bulk chemical loading and unloading areas
f) Switch yards

3. At Category A, fossil-fuelled thermal generating stations these areas include, but, are not limited to:

    a) Same as above
    b) Fuel oil storage area/tank farm
    c) Yard drains from uncontained coal, ash and oil loading, unloading, or handling areas.
    d) Yard drains from the vicinity of coal piles and yard ash handling equipment.

4. All other sites as per site specific schedules in the regulation.

5. Where, at a plant similar storm water catchment areas are being drained, representative catchment area sampling will be permitted.

SECTION 16: WASTE DISPOSAL SITE EFFLUENT MONITORING

Samples are only required monthly if a discharge of a waste disposal site effluent occurs in that month. The discharge of effluent will originate generally as a result of a storm event. Therefore, the samples should be collected towards the beginning of the discharge to catch the "first flush" effects, as noted in section 15.

SECTION 17: EQUIPMENT CLEANING EFFLUENT AND POTENTIALLY CONTAMINATED BUILDING EFFLUENT MONITORING

Samples are only required monthly if discharges of equipment cleaning effluent and potentially contaminated building effluent occur. The discharge of effluent will originate primarily as a result of station sump discharges at high level, the cleaning of boilers and air preheaters, and boiler wet-layup discharges.

SECTION 18: EMERGENCY OVERFLOW EFFLUENT MONITORING

Monitoring of emergency overflows is intended to measure effluents which discharge directly to a surface watercourse while bypassing all designated sampling points at the site. An overflow which discharges to a treatment system need not be monitored under this Regulation.

SECTION 19: QUALITY CONTROL MONITORING

Each of the quality control samples to be collected provides different information about the quality of the effluent samples collected and indicates possible field contamination. Only process effluents and combined effluent will require field quality control samples, as these effluents will be monitored to a greater extent and will likely be used in the development of effluent limits. Information obtained from the quality control samples will be used as an indicator of sampling variability for other effluents.

Monthly analyses of quality control samples from one process effluent or combined effluent stream are required for those parameters which are analyzed on a daily or thrice weekly basis. The quality control samples are collected on the same days as the daily and thrice weekly samples specified in Sections 7 and 8. Quarterly analyses are required for those parameters which are analyzed on a weekly or monthly basis and are collected on the same day as the weekly and monthly samples specified in Sections 9 and 10.

Quality control samples are to be collected from a combined effluent sampling point only if there are no process effluent sampling points at that particular site. The effluent stream selected should be that with the most comprehensive analytical requirements and should include applicable parameters from analytical test groups 1 - 27.

A duplicate sample provides a measure of the reproducibility of sampling techniques used at the site, including the integrity of the sample containers.
A travelling blank sample will provide an indication of any problems with sample contamination due to extraneous volatile fractions of contaminants in the atmosphere and any contaminants introduced by handling of the sample containers. Analytical test groups 1 (COD), 3 (pH) and 8 (TSS/VSS) are excluded from the analysis.

Travelling blanks for COD and TSS/VSS are relatively ineffective. Gross contamination would be required to be detected at the ppm levels of detection for these tests. No information relevant to samples is to be gained for pH on a travelling blank of distilled water.

A travelling spiked blank sample should provide an indication of the degree of degradation of the target parameters from the time of

sampling to analysis, which in turn may indicate degradation of the target parameters in the effluent sample itself. Only analytical test groups 16 to 20, 23, 24 and 27 indicated in the respective monitoring schedules are to be analyzed as they are most likely to volatilize or degrade in the unpreserved solution.

Travelling spiked blanks are not required for the conventional parameters and metals. Inorganic parameters in samples are stable. Most of the samples are either preserved or are analyzed within very short time periods.

The travelling spiked blank samples must be prepared with a standard solution which contains all of the parameters in the analytical test groups for which the analyses are required.

Additional quality control samples are to be analyzed and prepared by the laboratory, as outlined in section 4 of the General Regulation. These samples will provide an indication of analytical variability and laboratory contamination due to the analytical procedures.

Subsection (13) requires that a direct discharger need only fulfill the requirements of subsection (7), (9) and (12) in four consecutive quarters. However, due to the start of monitoring on June 1, 1990, that is the end of a quarter, it is recommended that the obligations of this section commence during the quarter commencing July 1, 1990.

SECTION 20: TOXICITY TESTING

Section 5 of the General Regulation specifies the test protocols which must be followed for the fish toxicity test and the Daphnia magna acute lethality toxicity test.

Toxicity test samples are to be collected at each process effluent, combined effluent, boiler blowdown effluent, event discharge effluent, batch discharge effluent and once-through cooling water sampling point.

Event discharge effluents at Bruce NGS-A and Bruce NGS-B and the Bruce Heavy Water Plants do not require toxicity testing since they discharge into RLWMS Tanks and Heavy Water Plants Process Effluent respectively. Also, water treatment plant neutralization sump process effluents discharging through ash transport water treatment systems do not require toxicity testing.

The samples must be collected on the same day as the monthly routine monitoring samples for the same effluent stream in order to aid in the interpretation and possible correlation of the chemical analyses and the resultant biological effects.

Effluent samples used for the fish toxicity and Daphnia magna tests are to be taken from the same sample container or set of containers in order to minimize the likelihood of sample differences.

The use of 100% undiluted test solutions only, in place of the full series of dilutions, is permitted for the fish toxicity test except for boiler blowdown effluents, as follows. The boiler blowdown effluents are excepted because of the rotational monitoring schedules under which the same boiler blowdown effluent will normally not be monitored over the entire year. A 100% undiluted test solution may be used if 3 consecutive monthly tests result in no more than 2 fish deaths at each effluent concentration. Full serial dilution tests would be reinstated where 100% undiluted test solution results in more than 2 fish deaths. Resumption of the 100% undiluted tests is allowed if 3 consecutive full dilution tests result in no more than 2 fish deaths at each concentration level.

It is not unusual for one fish in a serial dilution sample to suffer mortality due to natural causes. Therefore, mortality greater than two fish in most cases would be an indication of some effluent lethality.

The use of 100% undiluted test solutions only, in place of the full series of dilutions, is not permitted for the Daphnia magna tests on process, combined, batch discharge, event discharge and boiler blowdown effluents. Substantially less information is available about the effects of Ontario's effluents on Daphnia magna and, therefore, a full 12 months of testing is required.

Toxicity tests are required for once-through cooling water effluent streams to verify their non-lethality. The toxicity samples must be collected on the same day as the routine monthly monitoring samples for that stream in order to provide a correlation of the chemical analyses and the resultant biological effects.

A 100% undiluted test solution may be used for all quarterly once-through cooling water samples after the initial test where the fish toxicity test results in mortality for no more than 2 out of 10 fish at each effluent concentration. Full serial dilution tests would be reinstated where the 100% undiluted test solution results in mortality greater than 2 out of ten fish at each effluent concentration.

Special Note: Toxicity Testing of Radioactive Liquid Waste Management System (RLWMS) Tanks at nuclear-powered thermal generating stations:

Monthly samples will be screened on the basis of the following criteria:

Tritium:	less than 100 u Ci/Kg.
Gross gamma:	less than 0.25 u Ci/Kg.

It is expected that the chemical composition of the tanks meeting these criteria would represent all of the tank discharges.

Special Note: Boiler blowdown effluent, previously, was thought to possibly be toxic to fish and/or Daphnia magna at 100% strength due to the demineralized nature of the water. Subsequent testing performed by the MOE and Ontario Hydro found that demineralized water did not cause the mortality of fish, while boiler blowdown effluent at low dilutions did. Therefore, dilution series tests should be carried out for this effluent.

SECTION 21: FLOW MEASUREMENT

Protocols and procedures for flow measurement are outlined in section 6 of the General Regulation.

Flow measurement accuracy requirements are a function of stream type. An accuracy of ±7% (±5% for primary device and ±2% for secondary device) is required for process, batch discharge, event discharge, and boiler blowdown effluent streams in order to establish accurate loadings on those streams with the greatest potential for impact. An accuracy of ±20% is required for all other effluent except storm water and coal pile effluent stream types, including combined effluent streams, in order to provide an estimate of the contaminant loadings and to determine their potential for impact on the receiving watercourse. A ±20% accuracy is desirable (not a requirement) for storm water and coal pile effluent depending upon the method proposed by the discharger in the initial report.

Flow measurement systems on process effluent streams installed prior to promulgation of the EPGS Regulation need only meet an overall accuracy requirement of ± 15% of actual flow.

While continuous flow measurement of combined effluent streams to ±7% is preferred and would generally provide a more accurate determination of loadings, the Regulation allows for continuous flow measurement of a combined effluent stream to be accurate to ±20%.

The measurement of flow in a process effluent stream may require the use of both a primary and secondary flow measurement device. Typical primary measurement devices which may be employed include:

- parshall flumes;
- weirs;
- orifice plates;
- magnetic flowmeters;
- venturi meters.

Secondary measurement devices are typically electronic interfaces with the primary devices which interpret the measurements and convert them

to usable flow data. These data are commonly presented in a continuous chart form or discrete readout. A continuous chart is preferred to provide a record of the flow variability.

In cases where a storm water effluent, coal pile effluent, potentially contaminated building effluent, equipment cleaning effluent, or waste disposal site effluent is collected in a retention structure prior to discharge, the volume discharged may be measured using the change in level of the waste water in the retention structure.

Special Note: Flow measurement for boiler blowdown effluent may be estimated by boiler feedwater make up or an alternate acceptable to the Director. It is acknowledged that the feedwater make up method will over estimate the actual blowdown quantity because of other uses, blow-off of steam at nuclear stations and leaks.

In the case of RLWMS tank batch discharge effluent, daily flow may be calculated from the tank geometry and difference in levels of liquid discharged and number of discharges in an operating day.

The General Regulation requires that good maintenance and calibration practices for the measurement devices be followed.

Subsection 21(4) requires measurement or estimation of volume and duration for each storm water, coal pile effluent, event discharge effluent, emergency overflow effluent, equipment cleaning effluent, potentially contaminated building effluent and waste disposal site effluent where applicable, as required by collection of a sample. Although the frequency of monitoring these streams is dictated by the Regulation and plant/station operations it is recommended that a record of all such discharges be maintained to the extent feasible and practical. Such information will be of additional use in interpreting the data base.

Subsections (8) to (11) require that the accuracies of flow measuring devices for process and combined effluent streams be demonstrated either by calibration performed no earlier than 1 year prior to the promulgation of the EPGS Regulation or by the submission of reports certifying that the flow measuring devices have been installed according to recognized national or international standards.

SECTION 22: REPORTING

Section 7 of the General Regulation outlines the reporting requirements for each direct discharger. The contents of an Initial Report to be submitted prior to monitoring under the Regulation are outlined in the General Regulation and subsection (3) of the EPGS Regulation. Four copies of Initial Reports must be submitted by April 1, 1990 to the respective Regional Director.

All information which is considered by the station/plant to be confidential business information must be so identified on each page submitted to the Ministry.

This report is intended to provide the Ministry with a clear understanding of plant processes and the procedures each plant will follow in carrying out the requirements of this Regulation. Four copies of the Initial Report, including any attachments, should be provided.

A guidance document will be available from the Ministry prior to promulgation of the EPG Regulation to provide assistance in preparing the Initial Report.

Subsection 3(3) and Schedule DD of the EPGS Regulation lists the owners of the sector members by name as of August 1, 1989. Any change of name or ownership must be notified within 30 days after the end of the month during which the change occurs.

Results from all analyses performed by the laboratory must be reported, including all positive numerical values at or above the laboratory calculated method detection limit. This includes results from all analyses required by the EPGS Regulation as well as the results from the monthly analyses for verification of on-line analyzer performance required by subsection 4(18) of the General Regulation.

In cases where a laboratory has a method detection limit lower than the maximum allowed by the Regulation, all positive values below the MISA method detection limit and above the calculated laboratory MDL must be reported. This will ensure that accurate data is reported.

Subsection (14) to (16) refer to the reporting of temperature data recorded at the temperature measurement points and corresponding intake water temperature on specified once-through cooling water streams.

Flow measurement information must be reported for all process effluent, boiler blowdown effluent, combined effluent, batch discharge effluent, and once-through cooling water streams. The duration and approximate volume of discharges of storm water, coal pile effluent, event discharge effluent, equipment cleaning effluent, potentially contaminated building effluent, waste disposal site effluent and emergency overflow effluent is to be reported.

The date and duration of each storm event, the amount of rainfall and the approximate duration of each discharge is required. This information is required in order to correlate the analytical data with the event which occurred. A heavy rainfall or a close succession of storm events may lead to dilution, not only of the storm water but also other effluents, and thereby impact the analytical results.

A schedule of the sampling dates and times for monthly (process, once-through cooling water and event discharge effluent), characterization/open characterization and toxicity sampling is required for Ministry inspection purposes. Inspection samples will be collected for the Ministry concurrent with the collection of samples by the plant site. Sampling procedures used at the plant will also be inspected during Ministry inspections.

The quantities of chemicals added to all once-through cooling water is required in order to provide a greater understanding of the potential and degree of contamination. Routine monitoring on its own will not provide sufficient information as the analyses may not be performed for the added chemicals.

The quantities of oil and grease, lubricants, seal oils, transformer oils, hydraulic fluids, and bulk chemicals consumed at hydraulic generating stations (all 68, See Schedule DD) will provide an indication of loadings of these contaminants to the environment.

A flow variability report, as specified in subsection 3(5) of the General Regulation and subsection (29), is required by June 30, 1991 for each process effluent stream from which samples are collected other than by means of an automatic flow proportional composite sampling device. This report is intended to be used by the plant to show that the effluent flow is non-variable and therefore would not require flow proportional sampling for further collection of samples. Failure to provide this report will designate the effluent stream as a variable flow stream requiring flow proportional sampling commencing 3 months from the report due date. Flow proportional sampling will thus begin no later than October 1, 1991, if required. The on-going use of approved on-line analyzers for daily monitoring of final discharges will continue to be permitted.

A report detailing any equipment malfunctions or any other problems such as unit/station shutdown or plant outages which interfere with carrying out the requirements of both the General and EPGS Regulations, and the remedial action taken, must be provided. The reasons for non-compliance with the requirements, as documented in this report, may be taken into consideration by abatement and enforcement staff investigating an act of non-compliance.

It is prudent to have backup systems available for critical elements to minimize the chances of non-compliance.

All records which are required to be kept by this Sector are primarily for inspection purposes to ensure compliance with this Regulation. The records should be kept for a period of two years beyond the submission of the last report in compliance with the requirements of the EPGS Regulation.

SECTION 23: COMMENCEMENT

The EPGS Regulation, except sections 6 to 20 and subsections 21(1) to (7), comes into force on December 27, 1989.

The Initial Report for each direct discharger is required by April 1, 1990.

The sampling, analytical, flow measurement, toxicity testing and reporting requirements come into force the first day of June 1990. The implementation period between filing of this Regulation and June 1,1990 is intended to provide sufficient time to allow the plant site to purchase and install equipment, negotiate contracts with laboratories, set up their monitoring programs, and train personnel.

SECTION 24: REVOCATION

The requirements of sections 6(1), (5), (6), (9), and (10), sections 8 to 10, subsection 11(1), section 12, subsection 15(1), sections 16 to 19, and subsections 20(1) to 20(6) and (12) to (15) are revoked on June 1, 1991. In order to provide monitoring during the period before the intended Effluent Limits Regulation is promulgated, the daily monitoring requirements for process effluents, combined effluents, batch discharge effluents, and boiler blowdown effluent outlined in section 7 subsection 5(3) sections 13 and 14 will remain in force. Only conventional daily parameters will be monitored. In case of rotational boiler blowdown monitoring any one boiler may be monitored per discharger.

The daily samples must be collected and analyzed according to the principles and protocols followed during the twelve month monitoring period. Flow measurement of these streams must continue with the accuracy specified in the General Regulation and the EPGS Regulation. Reporting of all analytical and flow measurement results is required according to the General Regulation. Characterization/open characterization and toxicity testing will not continue under the EPGS Regulation beyond May 31, 1991.